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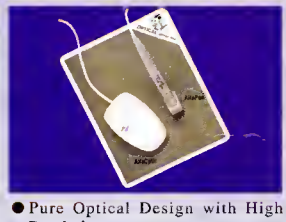

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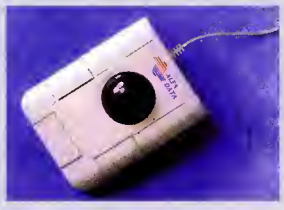

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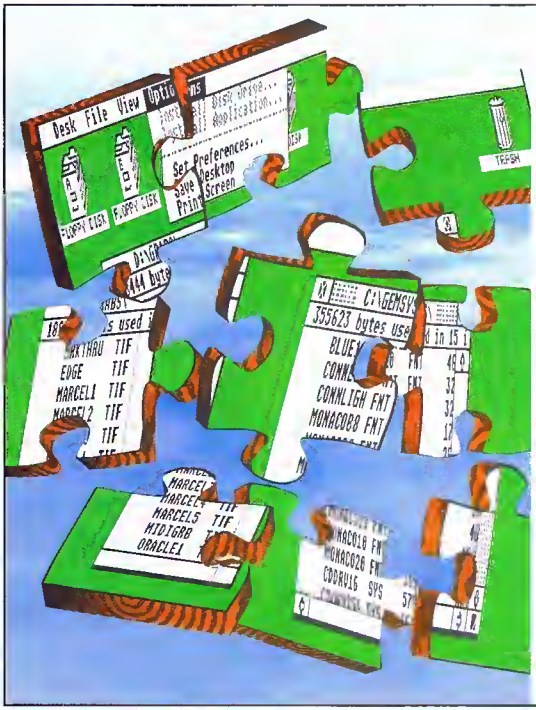

Desktop Basics

It's well known that the manual you get with your ST is lacking in clarity, especially when you are a new user. David Cusick explains Desktop basics in basic English 20

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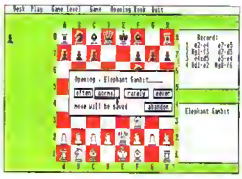

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The CoverDisk

In association with HiSoft, we are offering you the chance to try out Diamond Back 3, a powerful disk backup utility for all Atari computers. Plus a Diamond Back 3 special offer

PLUS:

- **Deep Thought – A demo of the powerful chess program also reviewed in this issue**
- **Splitter 2 – A utility for transferring large files between Atari and PC**
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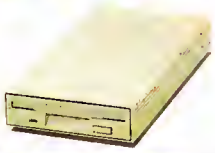

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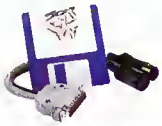

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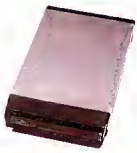

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Atari heading for bankruptcy?

by Adam Phillips

Following derogatory comments from a US investment manager that Atari might go bankrupt, the company's chief financial officer August Liguori said that Atari are "a long way from bankruptcy".

Martin Sass, Managing Director of Sass Investors, said in an interview televised in the US that the company had no way of making money.

Is the Jaguar enough to save Atari?

The Jaguar had failed in his opinion and Atari's old product line had become obsolete due to the lack of software. He believed that the company's stock would become worthless.

Liguori, while admitting that Atari would not be making a profit in '94 due to production delays and advertising costs, said he believed the business would be profitable by the first quarter of '95.

In the meantime, Atari are promising 12 games titles for the Jaguar will be in UK shops by September. They also claim there will be at least 30 titles by Christmas.

Jaguar makes waves

With sales figures showing success in the States, Atari's Jaguar is soon to benefit from the graphical expertise of Wavefront Technologies Inc.

The two companies have announced a worldwide agreement making Wavefront's Gameware the exclusive game graphics and animation development software for the Jaguar.

Using Silicon Graphics workstations, the Gameware system is a comprehensive set of 2D and 3D tools that incorporates a wide range of capabilities allowing the creation of 3D objects and terrain, 3D synthetic actors with realistic motion and special effects.

"Visual realism is central to the Jaguar's capabilities and [Gameware] has the rendering speed and throughput to drive realistic character animation at a price point that is viable for the home market," said Bill Rehbock, Vice President of software business development for Atari.

Bruce Sinclair, electronic games marketing manager for Wavefront, said: " Atari's selection of Gameware as its exclusive authoring tool will showcase our product with the industry's leading developers in creating some of the most visually stunning games to date".

Expect to see the first results of this arrangement within the next year.

Silicon Graphics-based images soon to appear on the Jaguar

New technology unveiled at CES '94

At the recent CES show in Chicago, Atari announced several hardware developments for the Jaguar.

The Voice/Data Communicator permits two users of the 64-bit console to play games against each other via the phone line. The players are also able to talk to each other through the use of headsets while hearing the software's stereo soundtrack.

Users will have call waiting indications enabling them to pause the game, answer the call and then resume afterwards. The system has been developed by American company Phylon Communications. The first games to exploit the features of the new hardware will be Doom, Club Drive and Iron Soldier.

According to Sam Tramiel, president and CEO of the Atari Corporation, the unit is being released in the States in time for Christmas and UK owners can expect to see it in Britain at some point next year.

The Voice/Data Communicator should also allow access to on-line services on the Information Superhighway once the relevant software has been developed.

If the idea of a two-player head-to-head is still not enough, the soon to be released Network Modem will allow up to 32 gamesplayers to play simultaneously.

"We are extremely excited about all this," said Richard Miler, Vice President of Engineering for Atari. " Now 64-bit gaming can be an exciting multi-player experience as well as an individual pleasure."

The CD-ROM attachment for the Jaguar, also unveiled at the CES show, allows the playing of enhanced video games and audio compact discs. An optional MPEG video cartridge can be bought which enables access to full motion video.

The CD-ROM is being released in the States in time for Christmas and will cost $199.95. Titles to look out for on its release early next year in the UK are Blue Lightning, Battlemorph, Jack Nicklaus Cyber Golf, Highlander, Creature Shock and Demolition Man.

News briefs

Health concern

For computer users who regularly spend hours on the keyboard staring at a screen, the London Advice Services have released a factsheet on health and safety when operating a computer.

The Computanews pamphlet offers advice on what the risks are, what the user needs to do to create a better environment and what the law says about employers' responsibility to their staff.

The factsheet costs £3 and is available from LASA on 071-377 1226.

★ ★ ★

Robotics report

According to research company Dataquest, US Robotics is now UK market leader in high speed modems with a 16.5% share.

"We have gone from 15th in 1990 to number one in 1993. The figures tell their own story," said US Robotics' Managing Director Clive Hudson.

For more details on US Robotics modems, call Lucy Brown on 0753 811180.

★ ★ ★

Online growth

With the continual enlarging of CompuServe's facilities, this month sees the introduction of the on-line service UK Professionals Forum which focuses on the needs of key professional groups in Britain.

At present, the forum has areas for members of the legal, medical, engineering, financial, marketing and media professions. The various fields are catered for via the use of message sections and libraries and CompuServe hope that the new service will encourage the involvement of the appropriate national bodies.

To join CompuServe, phone 0800 289378 for more details.

★ ★ ★

Manufacturing plans

Atari have announced that the majority of this year's 300,000 unit production of the Jaguar will be manufactured by IBM in the States.

Sam Tramiel of Atari said: " We are pleased to have IBM's manufacturing strength and support as we commence volume production for the Christmas selling season and we are proud that this relationship has enabled us to competitively manufacture Jaguar in the United States."

Video Supreme offers

Will readers interested in the Video Supreme special offer (August issue 103, page 13) please be advised that they should make all payments payable to Goodman International and not Europress Direct.

Virtual thump

With graphics constantly reaching new heights of realism in virtual reality, Aura systems have released the Interactor Virtual Vest to enhance the audio experience on any games system.

This peripheral, worn over the upper torso, claims to add to the sensation of feeling the sights and sounds of video games.

The system works by "listening" to any games system's audio output and triggering an Aura magnetic actuator within the Vest. This in turn produces body-pulsing vibrations keyed to the on-screen action.

"It's a revolutionary video game accessory," said Senior Vice President Larry Schultz. " Players can feel everything from the bounce of a slam-dunked basketball to the thump of a fighter's punch. What's more, the Interactor can be used for watching television or listening to CDs, adding the third dimension of feeling to these activities."

Feel as well as seeing and hearing games with your Vest on

TT taken under Falcon's wing

Falcon user group Falcon FacTT File has recently announced that it will be accepting membership applications from Atari TT owners. The group has members in the UK, Belgium, France, Greece, Iceland and in other countries around the world.

The group's primary function is to create an extensive database of names where anyone with a problem or enquiry may contact another user to find a solution. This listing is included on a disk sent to new members together with news, reviews, comments, hints and tips.

For further information, contact Kevin Beardsworth on 0208 356 8567.

Protext improvements

To celebrate their 10th birthday, Arnor are releasing Protext 6.5, an upgraded version of their successful word processing package.

Highlights include a graphical print preview, improved spelling checker, Auto-Correct spelling and an automatic expansion of abbreviations.

The price of the Protext 6.5 has been reduced by more than 50% to £99 and owners of the previous versions can upgrade at a reduced rate.

Contact Arnor on 0733 68909 for more information.

Play with a friend

Continuing this month's vogue for multi-player adapters, Black Cat Design and ICD have announced the imminent release of the Cat Box for the Atari Jaguar.

The unit allows players to join their Jaguar or Lynx consoles together for head-to-head competitions. The Cat Box also provides standard ports including S-Video, Composite Video, RS232, ComLynx and DSP.

The peripheral costs $49.99 in the US and ICD can be reached on 0101 815 968 2228.

Silica extend warranty

In a bid to provide a better deal for the customer, Silica have introduced a comprehensive extended warranty on all products including games consoles.

The SilicaCare scheme provides repair and replacement of parts, including major hardware such as hard drives and monitor tubes, for a single computer or whole system.

The warranty can be arranged for up to five years, tailoring the needs of the individuals. If you have a computer system worth up to £1500, a two-year policy will cost £38 for free repairs, delivery and courier service.

"As hi-tech games consoles and computers become a part of everyday homes, more non-technical users want the assurance of a total service package," said Retail Controller Ken Browning. "SilicaCare provides them with the peace of mind that, should anything go wrong, it will be immediately fixed." .

For more details, phone Silica Systems on 081-309 1111

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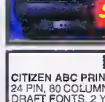

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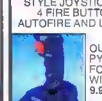

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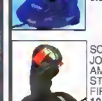

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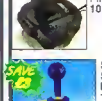

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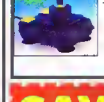

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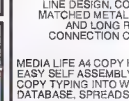

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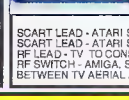

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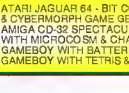

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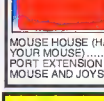

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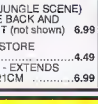

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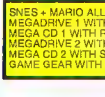

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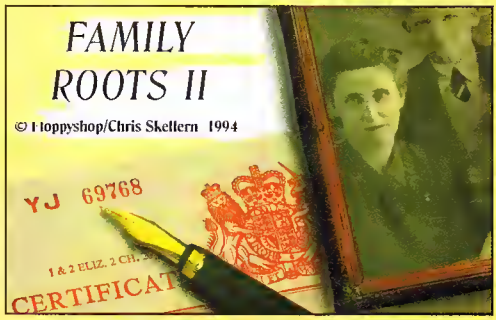
Awarded "Essential Buy" status with a rating of 90%
ST Review's August 1994 issue

EZ-Art Professional costs only £29.95. Postage free in UK, £1.50 for Europe (inc Eire), £3.00 rest of world.
DEMO VERSION: We can supply a usable demo of EZ-Art Professional for only £1.00.

Family Roots II

Trace Your Blood Line with
The Leading Genealogical Software

Family Roots is a program designed to assist those of us who indulge in the pursuit of tracing our ancestry or 'family tree'. Unlike similar products, Family Roots is not merely a customised database. It lets the user to link each individual into the family tree graphically on the workscreen, whilst allowing easy access to its integrated database. Family Roots II is out now at a cost of £29.95 and comes complete with fully illustrated manual. Postage free in UK, add £1.50 for Europe (incl Eire), or £3.00 for rest of world. Existing users of Family Roots 1 should contact us for details of how to upgrade.



DEMO VERSION - A working demo of Family Roots II is available for just £1.00.

Other Products

Floppyshop also stock a number of other top quality commercial products. These include the following:,

ST Handbook - An essential read for all ST owners - £2.50 (UK Only)
Easy Text Pro (needs 1 Meg) - Budget priced Desktop Publishing package for ONLY £29.95
Easy Text Pro Vector (Needs SpeedoGDOS, 2 Meg and a hard drive - 2.5 Meg if you don't have a hard drive) £29.95
The Beginner's Guide To STOS Basic - A simple to follow programming course for STOS enthusiasts (STOS Basic not included) - ONLY £32.95.
Mr. Smart's Big Time - Twenty-five educational games for 6 to 12 year olds. Awarded 'Essential Buy' by ST Review. You simply must buy this one to help pass the time in the Summer holidays! - ONLY £24.95
The above include postage within the UK. Contact us for details of sending overseas.

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We have the largest collection of software and offer a same day service on all orders. All disks competitively priced with discounts on multiple disk sets and two free disks with every ten ordered. We also stock the entire range of Budgie UK Licenceware and have introduced our own prestigious new Floppyware range which includes the best new releases from Britain's top Licenceware groups. Send a blank disk for a copy of the catalogue and check us out for yourself. Please state ST or Falcon when ordering.

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Access

Euro News

Good news for Atari users as developers follow Hollywood's lead into a summer of sequels. Don Maple reports

Full speed ahead

IN A surprise move, Compo Software have struck a deal with Atari to independently continue the development of SpeedoGDOS.

Though the copyright to SpeedoGDOS remains with Atari, Compo have received all sources and documentation. The development work is being done by the "no software" group of programmers with which Compo are closely associated (see Compo profile in July issue of Atari ST User).

The new SpeedoGDOS S.0 will include a number of new features, the most exciting of which is the addition of support for Type 1 and TrueType fonts.

Though in general Speedo fonts are of higher quality and more efficient there are "only" about 1100 of them around. Type 1 and TrueType, on the other hand, contain every conceivable font and their prices are considerably lower opening the Atari to a whole new universe of type faces.

SpeedoGDOS S.0 also includes a number of new printer drivers such as the 300 and 600 dpi support for HP-Laser4, assorted Epsons and, particularly welcome, the support for some colour printers such as the HP S00C and SS0C. Finally, the font scaler has been optimized and now runs faster.

Registered developers will be able to obtain documentation from "no software" free of charge once their developer status has been confirmed with Atari. However, in a break with the past and since Speedo S was written by Compo and not Atari, the developers will have to pay for the upgrade like everyone else. This is somewhat unfortunate as the success of SpeedoGDOS S.0 software on the ST depends on how much the developers embrace these new features and Atari should have arranged for the support to continue as before.

Upgrade to SpeedoGDOS S.0 including 8 fonts costs in Germany 69DM (about £30). Additional fonts are available separately in two 100-font packages each priced at 99DM (about £40). For UK pricing and availability contact Compo Software at 0487-3S82.

ZUUL: Who goes there?

ZUUL, "the gate keeper", is a handy little German utility to keep an eye on any serial port activity of your ST/TT/Falcon.

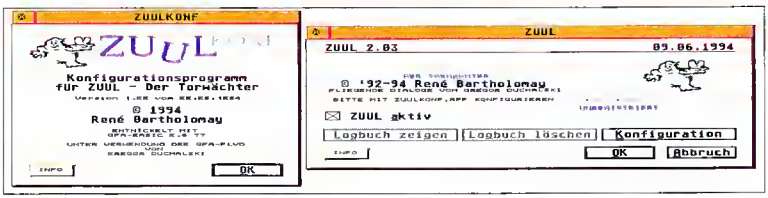
By the author's own admission the project started as a simple dialog box to indicate an incoming phone call which he couldn't hear with his headphones on.

It soon expanded and is now a full-blown program. ZUUL will automatically start watching the currently active serial port but it can be configured to watch any other. It can optionally keep a log of the last 15 calls.

If the incoming call is a fax, ZULL will invoke a fax program of choice. In addition to an optional visual indicator ZULL can also sound anything from a simple "ping" to playing sampled files.

PD of the month

Finally, ZULL can run a resident program when it boots or run any program when a call is received. The author only asks 10DM for registration but when writing from the UK a £S fee is more appropriate. Contact Rene Bartholomay, Neckarstr. 82, 28199 Bremen, Germany.



● Q: WHAT do Atari enthusiasts in Germany do after summer holidays? A: They go to an "Atari happening"!

Taking place on October 29 and 30 the happening is organized by the "Computer Club Elmshorn e.V.". Officially called the 5th Elmshorn Computer Days, the gathering attracts an average of 10,000 visitors and the focus this year will be ATARI ST/TT/FALCON.

In addition to various Atari software and hardware companies the gathering will also be attended by a number of Atari User Groups and PD authors. The entrance is free.

For more information either as a visitor or exhibitor contact Computer Club Elmshorn e.V., ATARI ST/TT/FALCON-Gruppe, Postfach 261, 2S302 Elmshorn, Germany.

● IF you're a Falcon owner and your French is getting rusty now's your chance to polish it up.

For only S0FF (about £6) any European Union resident can get a six-month membership to "FAUCONTact", the French Falcon 030 User's Group. You'll get access to the group's PD collection and a Faucontact magazine every other month.

For more info write to FAUCONTact, Mas du cres, 30140 Boisset & Gaujac, France.

Spread the word

NVDI or New VDI is the legendary software accelerator which replaces original Atari VDI routines.

NVDI is very widely spread in Germany and is gaining in popularity worldwide. The new version 3.0 will include support for GDOS and vector font output.

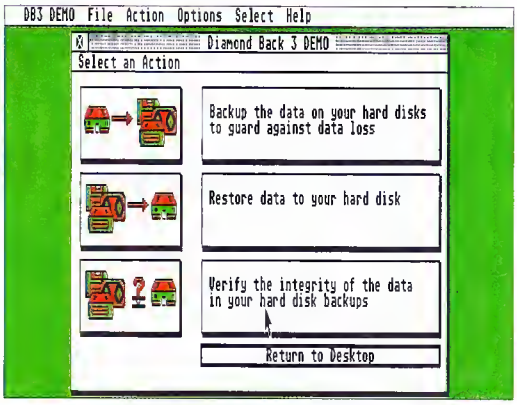
In addition to Speedo fonts, NVDI 3.0 will have built-in support for TrueType fonts as well. NDVI 3.0 runs under TOS, MultiTOS and MagiC, and is Falcon-compatible.

Depending on the old version, number the upgrade costs between S0DM and 80DM (about £20-30). A font package with 100 TrueType fonts from the Bitstream library is priced at 79DM (about £30).

For more information contact the UK distributor of NVDI System Solutions at 07S3-832212.

If you can't find something you like on this month's CoverDisk, you'll never be happy! We have two exclusive commercial demos, three great games, two handy file utilities and some free commercial fonts for desktop publishers

disk COVER



Diamond Back 3 is the best yet for hard drive owners

Diamond Back 3

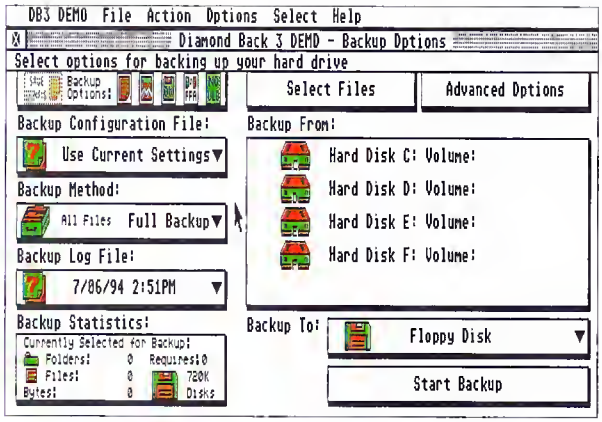
Presenting an exclusive, up-to-date demo of Diamond Back 3, HiSoft's new hard drive backup program

Diamond Back 3 is the most comprehensive hard drive backup utility ever seen on the Atari. It boasts scores of options from full, incremental, GEM image and RAW image backup to support for high density disks and even special fast-formatted disks.

Data can be compressed or decompressed to save space and the program includes support for SCSI tape drives and other devices such as Flopticals and magneto-optical drives. Backup sets can be saved for repeated use and log files created so you can see what is in each backup.

This exclusive demo is the very latest version – not the one currently available on bulletin boards – and it allows you to back up your hard disk in the normal way, though any tapes or disks produced will be blank so you'll be unable to try out the restore features. Just click on the program DB3DEMO.PRG and off you go.

With the stylish new user interface, Diamond Back 3 must be high on any hard drive owner's wish list. A button bar provides



All the options can be selected using the mouse...

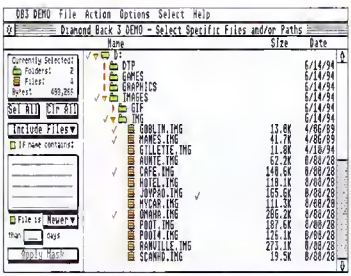
What's on the disk

Program	By	Configuration	File/s	Disk space needed to extract
Calamus fonts	Advanced Graphics	Any Atari	X_CFN.TOS	125004
PostScript fonts	Advanced Graphics	Any Atari	X_AFMPF8.TOS	124884
Diamond Back demo	Oregon Research	Any Atari, not low res	X_D83.TOS	273682
Minesweeper	Colin Watt	Any ST, low res	X_SWEEP.TOS	94617
Deep Thought demo	Galactic	Any ST, mono only	X_CHESS.TOS	108284
Noughts/Crosses	Andrew Kelly	Any Atari, low res	X_NOUGHT.TOS	55452
Filemaster 1.0	Gordon McNeil	Any Atari, not low res	X_FMAST.TOS	50367
Pushover	MotiveUltra	Any ST, low res	X_PUSH.TOS	348,389
Splitter 2.0	Stuart Coates/ Mark Matts	Atari/18M compatible PC	X_SPLITT.TOS	99088

access to commonly used commands and all the options are selectable using the mouse, including file selection and masking using wildcards.

On the disk you'll find a comprehensive text file dealing with all the main features but we've included a special two-page tutorial in this issue to give you a taste of the program.

See the tutorial pages for news of a special offer from HiSoft including upgrades from version 2 and a double deal with Diamond Edge.



...including file selection

Deep Thought

You'll need to think deeply with this exclusive playable chess demo

Deep Thought is an impressive chess game from German software developers Galactic. This demo version allows you to play chess as much as you like though the computer will only spend up to 15 seconds on average thinking up its moves.

That said, not many of you will beat it, even at that level! You can change sides, change the appearance of the chess pieces, take back moves, ask for help and even play the computer against itself. You can see just how easily the editor works but you cannot play any edited games.

The best part of the full commercial version of the program is undoubtedly the ability to load, edit and save a library of opening moves. In the demo, you can load and edit the two opening libraries provided but you cannot save them afterwards. The full version has many extra features – see this month's review for more details.

To run the program, double click on the program file DEEPE.PRG. When the main screen appears, go to the Opening menu and select the option marked Load. If you have a 1Mb system or better, use the file selector to choose one of the two different opening library files 512K.ERO or 512K2.ERO.

After a while – don't panic, there's a lot of work being done behind the scenes – you'll return to the main screen. If you want to program the computer into playing different openings, select the Change option from the Openings menu. With the 512K.ERO library loaded, you'll see four moves in the right hand window. This represents a rather limited opening library of Pawn to King 4 or Pawn to Queen 4. The other two moves are never chosen by the computer whereas these two are chosen pretty equally.

Click on the letters e2-e4 in the window - the list shows possible black moves, including some it never considers and others that it may choose normally, often, or only occasionally.

Choose e7-e5. This is the routine response that most players would make. White now has a few options but let's add another. Try moving pawn to Queen 3 and see what happens.

The computer now prompts you to tell it how often to use this move. You can even name it something appropriate if you wish. It's a great game for chess buffs keen on experimenting. From now on you're programming chess moves into Deep Thought's prodigious memory. Eat your heart out Kasparov!

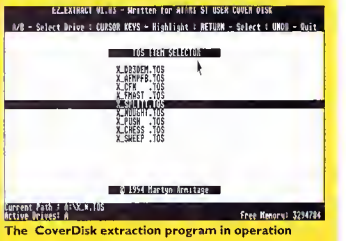
Using the CoverDisk

First things first. Write-protect your CoverDisk now by sliding the write protect tab, inside the small hole in one corner of the disk, so that you can actually see through the hole. Your data is now safe from accidental erasure.

In order to fill the disk with as many programs as possible, ST User employs disk compression techniques for the vast majority of the software. These files are called "archived" files and contain all the files relevant to a particular program squashed together into a single file using the LZH compression algorithm.

These archives are identified by having a name beginning with X_ and are actually self-extracting files. In other words a small program is attached to automatically extract them into their original form.

In the past, we expected you to copy the archives to blank disks and run the self-extracting programs – now we have a different method. Simply double click on the program file EXTRACT.TOS and follow the instructions!



The CoverDisk extraction program in operation

The extraction program will present you with a menu of all the archived files on the disk. Using the cursor keys, make sure the black bar highlights the archive you want and press Return. After the file has been copied into memory, you will be asked to remove the source disk (the CoverDisk) and put a new disk in.

The good thing about this program is that you can use whatever disks are handy. It will format brand new disks, reformat dodgy ones you're not sure about or use space on half-filled ones. Just follow the program's instructions for the easiest CoverDisk ride you've ever had!

You will still need a formatting utility to make a backup of the CoverDisk because ST User has a rather unusual disk format consisting of 80 tracks and 10 sectors in order to make more space. So you'll need a program like Fastcopy 3 which can make direct copies. Alternatively use a formatting utility to format a similar disk and then file copy the archives and extraction program across.

If a fault turns up...

With thousands of disks being duplicated each month, a few will inevitably be faulty. Fortunately we can help. Send the faulty disk to:

PC Wise, Dowlais Top Business Park, Merthyr Tydfil, Mid Glamorgan, CF48 2YY

A replacement will be sent back free of charge but please allow 28 days for delivery.

Remember: the CoverDisk hotline is no longer available – with our easy-to-use extraction program there should be little need, provided you are familiar with the basics of using your ST. On the other hand, if you do have an enquiry or a complaint, write to Atari ST User Customer Services, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP.

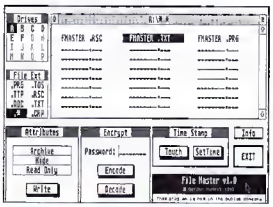
Filemaster

A handy little utility for investigating the deepest secrets of your files

Filemaster is one of those programs you always wish you had to hand but never do. It handles several file management routines that the GEM desktop doesn't, including setting or clearing file attribute flags, encoding files for security and touching or stamping files with the current system time and date.

There are three main attribute flags. One is the archive bit which is used to signify that a file has been written to and closed. Then comes the hidden attribute which can hide files from casual observers using the GEM desktop or file selectors. The read-only attribute is used to protect the contents of a file from being accidentally overwritten or deleted.

Filemaster is very easy to use. Simply run the program file, FMASTER.PRG, and select the file or files you want to alter. Then press the appropriate button on the main screen. You can also add passwords. Enjoy!



Filemaster – a handy utility to have around

Noughts and Crosses

The old favourite that never loses its appeal – kids especially will love this one!

This needs very little in the way of introduction but it's an exceptionally good implementation that is very easy to use and great for younger members of the family. Until they realise that they'll never, ever be able to beat the computer, of course!

You can opt for a two-player game (let your kids win once in a while!) or play against the computer. After each game you get a breakdown of the score and, well, that's about it.

A great family favourite

Fonts

Three commercial fonts in Calamus and PostScript formats – with the promise of two full sets to come!

We've excelled ourselves again with this daring CoverDisk giveaway. Fonts are high on everyone's list of collectables, particularly if you do a lot of word processing or DTP. A smart, stylish font can make all the difference to your documents.

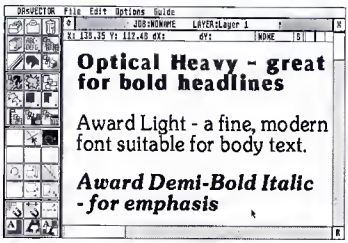
This month we're giving away three high quality fonts in both Calamus and PostScript formats. The Calamus format fonts can be used in all versions of Calamus from 1.09 to SL, DA's Vector and DA's Layout/Didot Professional. Alternatively they can be converted to That's Write format using CFont or to GDOS format (for Timeworks and similar programs) using the ST Club's excellent Fontkit Plus 4. The PostScript format fonts are for use with Pagestream.

Both formats can be edited and altered with the ST Club's useful Fonty utility. One or two non-essential characters are missing but there's a full set of alphanumeric characters and the widely used punctuation marks.

The fonts are in two separate archives – simply choose X_CFN.TOS for Calamus fonts and X_AFMPFB.TOS for the PostScript versions.

This month we give you Award Light, Award Demi-Bold Italic and Optical Heavy. Others will include Optical Plain and Bold, Award Light Italic, Demi-Bold and Bold. Over the next few months we'll be giving away three fonts from the Optical family (similar to Optima) and five from the Award family (similar to Souvenir), so you'll have two complete typeface families to collect.

Plenty of others are on offer from Advanced Graphics Ltd of 14 Lyefield Avenue, Wigan, Greater Manchester WN1 3UL or telephone 0942 498174. Pack prices start from £15 for a pack of 20 fonts in either format.



Our giveaway fonts being used in DA's Vector

A fine intro to a fine game

Pushover has plenty more options when you register

Pushover

One thing's for sure, you won't find this demo of the arcade and strategy game a pushover!

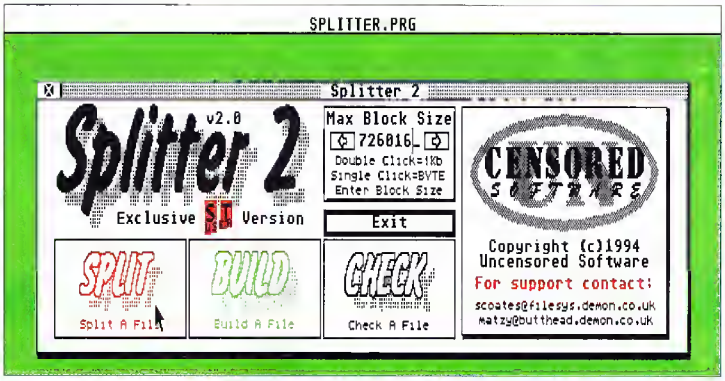
You are Zarich, a Star Trooper caught by the vile Krenan, emperor of the evil Quantum II galaxy. Luckily, Krenan, in a moment of uncharacteristic clemency, has given you a chance of freedom and you must now escape from Krenan's specially constructed maze.

In this shareware demo, you get a total of 48 maze screens to puzzle and fight your way through – in the full game you get a staggering 288 and can even devise your own using the editor!

To escape, you must find your way through the maze by opening the doors on each screen and guiding your hero with either the keyboard cursor keys or a joystick. You can open doors by pushing the various coloured energy blocks to the block destructor cells. Once all the energy blocks on a screen are destroyed then all the doors on that screen are opened.

Clearing these energy blocks from a screen is rather like solving a puzzle as you can only push one energy block at a time and there's often only one way you can do it. To make things doubly difficult there are aliens that chase you and laser bases that fire at you. You have a gun to destroy aliens but this uses up your 300 valuable life points, so beware!

Detailed instructions are provided on disk (the file NOTES.ASC) and in the game itself. Good luck and may be the maze be with you!



Let's split, man!

Splitter

A smashing utility for both the Atari and PC to enable you to transfer large files between the two

The Atari might be pretty industry standard as far as most file formats go but transferring information between PCs and STs can be a real problem if the file size exceeds what you can fit on a single floppy disk.

Think of all those PhotoCD and TIFF images your mate can access from his PC and CD-ROM drive. Or those music samples in Windows WAV format you'd love to try out.

Now there's a way to access them and it doesn't require any extra hardware. Splitter is an ingenious utility that breaks a large file down into manageable chunks so it can fit on several floppy disks.

On the CoverDisk you'll find both Atari and MS-DOS versions of the program so you can split and then rejoin files on either your Atari or any IBM-compatible computer (286 processor or higher) and transfer them backwards and forwards to your heart's content.

The file SPLITTER.PRG is an easy-to-use shell for the SPLITTER.TTP program that does all the work. Just select which action you wish to carry out and use the file selector as prompted. The files SPLIT286.EXE and SPLIT386.EXE won't work on your Atari, only on MS-DOS computers. They're a lot less friendly and you'll need some idea of how the MS-DOS command line works. Full instructions are included on the disk in the file named README.TXT.

Support is vital

If it wasn't for some very talented shareware authors, the ST games scene would be a lot duller. So, a big round of applause goes out to the authors/groups who support shareware .

If you would like to see more shareware games for the ST, be sure to support these people and send off the suggested registration fee. You now it makes sense.

Minesweeper

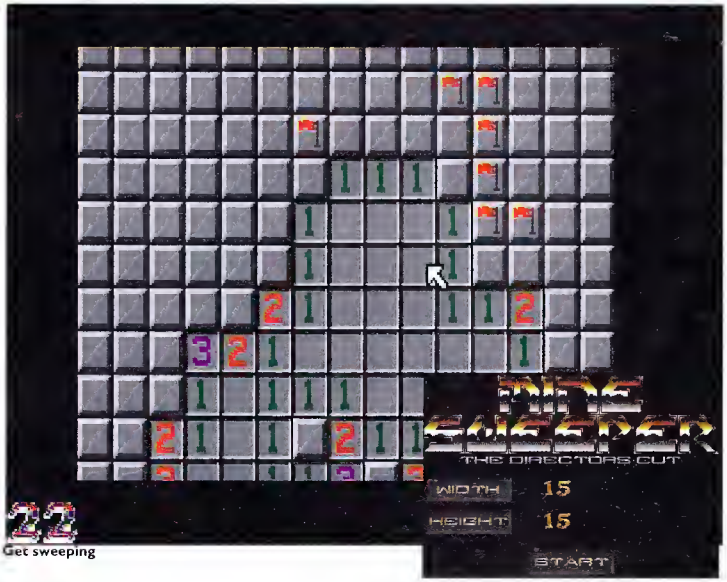
Sweep away the mines with this great adaptation of the Windows game

Minesweeper is a an adaptation of the Windows game Mines with a few little enhancements. You are presented with a mine field, and your objective is to locate all the mines as quickly as possible. To do this, you uncover the squares on the game board that do not contain mines, and you mark the squares that do. The trick is determining which is which.

Essentially Minesweeper is a game of logic and deductive skills – and a little luck. To uncover a square, select it using the left mouse button. If the square is a mine, you lose. If the square isn't a mine, a number appears. This number represents the number of mines in the surrounding eight squares. To mark a square as a mine, select it with the right mouse button.

The number of mines left to uncover is shown in the bottom left corner. One of the big advantages of this implementation is that it lets you customise the size of the grid and uses a virtual screen if you create one larger than the screen size. It also lets you play in a four-by-four square, making it a lot easier to get to grips with the concept.

Once the program has extracted, double click on the program file, select the size of the grid and press Start. Good sweeping!



Get sweeping

Choose your grid size with Minesweeper

Diamond

It used to be the next best thing to watching paint dry but with Diamond Back 3, hard drive backup has never been so easy

This month's CoverDisk demo of Diamond Back 3 will let you go through the motions of backing up your hard drive. It won't actually do the back up or validate the backup, but you can follow the steps below and see just how easy it is to use.

If you follow the instructions on the CoverDisk pages, you'll end up with two files on your floppy disk, DB3DEM.PRG and README.NOW. The latter is a text file explaining some of the program's features in detail. If you run the program, either from the floppy or from your hard drive, it will create two folders, CONFIG and LOGFILES, at the same directory level as the program itself. These are where the program stores various configuration files and logs.

If you click on OK to remove the opening dialogue, the program will then check to see what peripheral devices you have attached to your system, including hard drives, removable drives and tape streamers. After that you will be presented with the option to backup, restore or verify (Figure 1).

Note that the dialogue appears in a movable window, making it more convenient for multitasking operating systems like Geneva and MultiTOS. If you go to the Options menu and select Multitasking Options (Alternate-T) you will see that you can tweak the settings (Figure 2). A longer System Time means the backups take longer but at least you can get on with something else. Pretty as it is, not everyone will want to sit watching Diamond Back 3 in action, feeding it disk after disk!

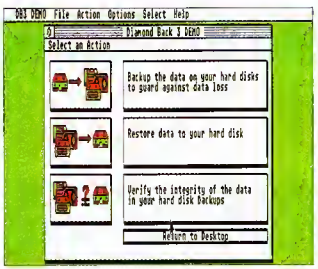
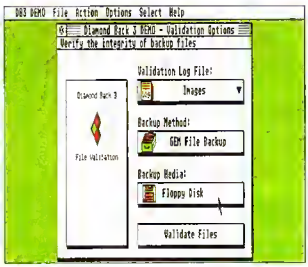


Figure 1



Validating files

Next, click on the topmost icon or the box to the right entitled "Backup the data on your hard disks to guard against data loss". You'll see the main backup screen appear in all its glory. Figure 3 shows just what it all means.

Assuming we want to back up some files on partition D, move the mouse pointer to the left of the Hard Disk D: icon in the box labelled "Backup From". The pointer turns into a check mark. Click once to mark this partition and wait for the program to scan the entire partition contents.

Now click on the Select Files box. You will see the partition contents represented in the main window. Note that the entire partition is automatically selected. Press the Clr All button and select the folder(s) and/or files that you want to back up. Clicking on the small right facing arrows to the left of each folder icon opens that folder while clicking on the down facing arrow closes it. You can easily select or deselect any files or entire folders.

As an example, I'm going to back up my image files. They're distributed all over the drive, not only because I'm basically sloppy but because they get moved around to test different programs. To go through each folder would take forever and a day, which is where the masking comes in. You can use standard Atari or Unix style wildcards to specify types of files to be saved.

For example the include mask *.?NF would select save program configuration files (such as TRUIMAGE.CNF) and

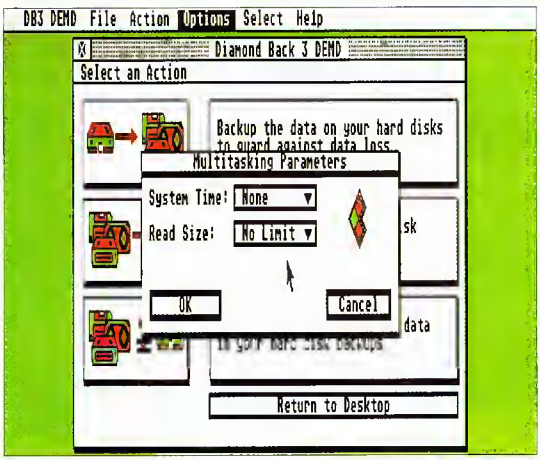


Figure 2

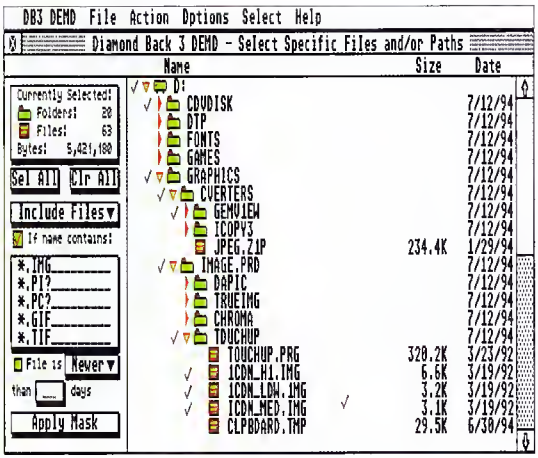


Figure 4

securities

*.INF files (such as DESKTOP.INF). Of course it would also save any files with an extender such as *.XNF so you may like to be even more specific and make the mask *.[CI]NF.

In Figure 4, I've selected the image files I want backed up using a suitable include mask. Once the mask has been devised, you can select all files and then press Apply Mask and all the relevant files in the existing selection will be chosen and the others ignored. You'll see that you can also select files by creation date.

Once you've selected your files, click the window close gadget, select Backup from the Action menu or hit Control-B (pressing Help gives you a full list of shortcuts).

You will see an estimate of the number of disks required in the lower left of the main screen. If you have a high density drive, it will be half this number but if you have a Falcon and VGA monitor, you'll see an exact estimate.

Using Figure 3 as a guide, toggle file compression on, split files, overwrite, prompt for action and check sum on, using the icons in the top left corner. Now click the mouse on the Backup Configuration File box and select New Set. Enter a description up to 20 characters long and click on OK (Figure 5). Next, you can click on the Backup Log File box and select a new log file, again giving it a 20 character name.

If you make a mistake or start getting too many of these configuration and log files, you can select File Tools from the Action menu and delete or rename them (Figure 6). Finally, click on the Save Config icon in the top left corner of the screen and the entire backup procedure is saved.

A week later, if you decide to backup all your image files again, you simply select the appropriate configuration file and press Start Backup. Even if you've added some extra images or deleted one or two, Diamond Back will save them. It's that easy!

Backing up

Press Start Backup now and you'll see the backup screen as in Figure 7. In the central dialogue, you can View what is on the current floppy (in case you're not sure whether you need the contents), get some Info on it, such as free space and format type, or Fmat it, if necessary. Once you're happy, press Go and the backup gets under way. This is the easiest bit of all. Diamond Back 3 now does all the work – all you do is feed in the disks!

Remember that you can use any combination of disks for your backup, including unformatted ones and old data disks with any type of format (even if they're full, Diamond Back will write over them).

If a disk turns out to be dodgy, you'll be warned and asked to try another but you won't have to do the backup again as the program will write the files destined for the bad disk to the new one.

A quick look around the backup status screen shows a bar with percentage completed, accurate figures of the number of bytes backed up and the overall compression ratio achieved. You may well find that the backup that was estimated at eight disks will in practice take only four or five.

Once the backup is complete, you can investigate the restore and validation screens. All you have to do is select the appropriate log files and press either Start Restore or Validate Files. In the demo version these features are disabled (and the backup disks are blank) but if you decide to take advantage of our special offer, you can get the working version complete with 60 page manual and 30 days free technical support from HiSoft.

Backup strategies

There's more to backing up your hard drive than just running Diamond Back 3. It has to be carefully planned like a military operation – and the timing can be critical. First of all you have to weigh up how much data you're likely to want to back up now and in the future.

The simplest strategy is to take a full backup of your hard drive every day or two and keep at least three different backup sets just in case you run into problems with one.

However this will rapidly become a bore, particularly if you're backing up to floppies and, if you're anything like me, you'll soon stop doing it. What's more, there's no real need to back up things like programs and fonts as these can be reinstalled fairly easily from the master disks, so it pays to be selective.

If your data doesn't change much then you may as well take a full backup once a week, say on a Friday afternoon, and leave it at that. If your data changes frequently – or it is particularly valuable to you – then a more deliberate strategy is called for.

The answer is often to use an incremental backup method. Incremental backup means that only the files that have changed since the previous backup, full or incremental, are saved. This can be a very quick method as some days very little will have changed.

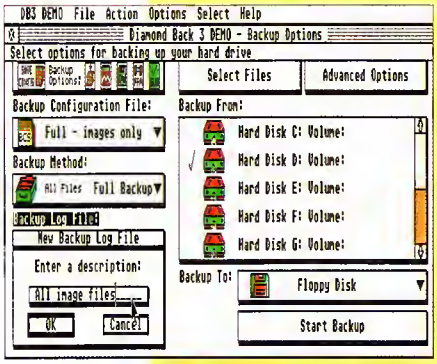


Figure 5

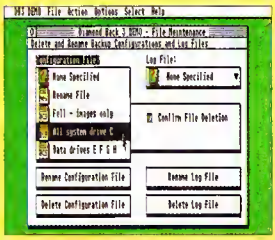


Figure 6

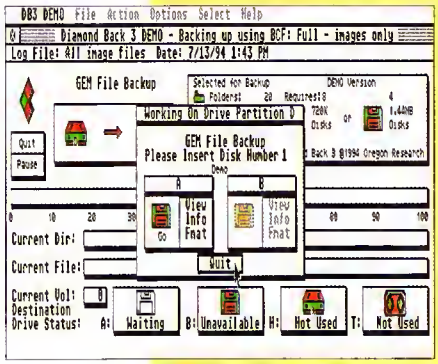
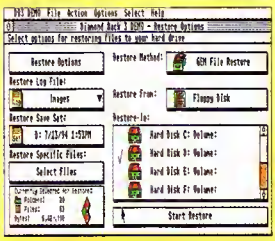
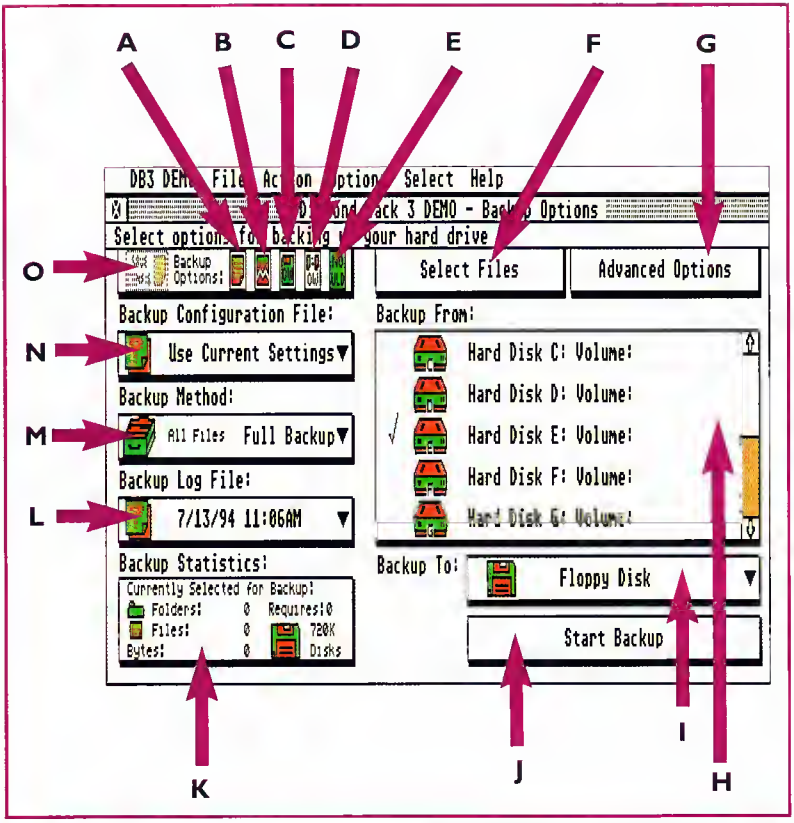


Figure 7



The restore screen

Figure 3



The main backup screen

A: Toggles file compression on or off (slightly slower but uses less disks)

B: Toggles file splitting mode on or off. Allowing Diamond Back to split files is more economical on disk space

C: Toggles between overwrite and format modes. In this mode any data on the floppy disk will be overwritten. Clicking into format mode offers you a choice of four disk formats (though only the first two apply to normal ST drives)

D: Three-way toggle that tells the program what to do if it comes across an identical file on the destination disk. The options are prompt for action, skip or overwrite (only active on hard disk to hard disk backup or incremental floppy backup)

E: Toggle validation on or off. The default is no validation but if the ticked icon is selected, a checksum will be calculated for each file and stored in the backup log to help validation

F: To the file selector screen

G: Access the advanced options including file encryption, passwords and SCSI tape drive options

H: Select the partition(s) to be backed up

I: Destination media - can be floppy, another hard drive partition (including removables) or a tape drive

J: Once everything is configured the way you want it, this is the "go" button

K: Disk usage estimates in terms of 720k disks only. This is a basic calculation that takes no account of compression or HD drives

L: Choose a log file. A backup log is always created with a default name based on the date but you can either choose another name or overwrite a previous log

M: Backup method can be full, incremental, GEM image (the partition data in a special form) or RAW image (for Spectre)

N: Backup configuration files allow you to save the selected paths and other settings for reuse. You can always create a new set or choose an previous one

O: Save the current configuration

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Dave Cusick explains how to make life easier when you're a beginner faced with the ST's desktop and hands out some desktop tips

Absolute beginners

When you buy a computer there is a wonderful period lasting between a couple of hours and a couple of weeks in which you try out every piece of software bundled with the machine by the suppliers, marvelling at the capabilities of your new toy.

For me, this lasted nearly a fortnight since I had at least 15 games to work through. Inevitably though, this blissful time drew to a close, and one day I found myself asking what else the machine could do.

The first time I turned on my ST without a game disk in the drive and was confronted with the bright green glow of the low res desktop I remember wondering exactly what was going on. Having graduated from the humble Acorn Electron I knew precious little of WIMP (Windows, Icons, Menus and Pointers) operating systems such as that of the ST and was unfamiliar with the mouse as an input device.

"Double clicking" was an alien concept to me, being used to typing in Basic commands.

If you want to use your ST for any "serious" applications such as word processing or home accounting then familiarising yourself with the processes involved in everyday operations is essential. This can be a little daunting for the newcomer. But if you're in the same boat as I was, don't be disheartened, because before long using the desktop will become a perfectly natural and easy operation.

What beginners might not realise is that there are several different versions of TOS, the ST's Operating System, floating around. Which version you have inside your ST will usually depend on when it was manufactured. Some programs can tell you exactly which version you have – the UVK virus killer for example.

SLOW

The very first version, TOS 1.0, dates from 1985 and is slow and bug-ridden by today's standards. The operating system would crash if more than 40 folders were opened in one sitting. Although a fix program was released called FOLDER.XXX, TOS 1.0 remains annoyingly sluggish and prone to crashing at critical moments. Very few TOS 1.0 machines are still around; they either gave up the ghost years ago or, more likely, have had TOS upgrades fitted by their owners.

With the advent of a chip called the Blitter which rapidly sped up screen drawing and data shifting operations, TOS 1.02 (commonly called TOS 1.2) was released. It's not as bad as TOS 1.0 but it is far from perfect – and again, it's quite a rarity these days to find a machine with it fitted.

TOS 1.4, nicknamed "Rainbow TOS" because of the cycling colours on the Atari logo in the desktop info box, represents the most widespread version of TOS. The file handling is vastly superior to that of 1.2 and crashes are extremely uncommon occurrences.

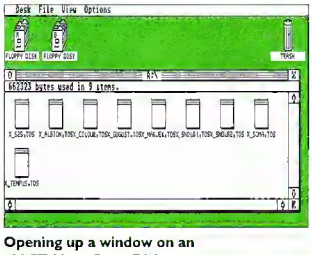
If you've got an early STE you'll have TOS 1.06 (aka TOS 1.6), which is essentially TOS 1.4 but has been upgraded to cope with the 4096 colour palette. Screen updating is also quicker. A bug makes it impossible to save medium res desktops and this was fixed in the otherwise identical TOS 1.62. With the advent of the Mega STE came TOS 2.0S, which made the desktop far more sophisticated with multicoloured icons and an improved user interface. TOS 2.06 has since appeared, and you can actually upgrade an STFM or STE with this version of TOS although doing so will require some technical knowledge and a bit of simple soldering.

Here I'll be working with an STE with TOS 1.6, so don't worry too much if some of the screens illustrated do not match exactly what you see on your ST, since the appearance of TOS has changed subtly over the various incarnations.

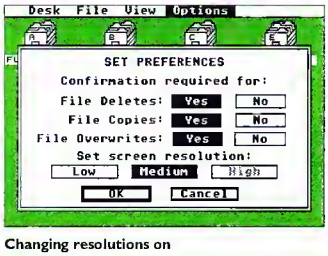
Basic operations

Let's start by having a look at some of the more common operations. I'll assume that you have read the instruction manual and are familiar with desktop fundamentals such as double clicking and selecting options using the menu bar.

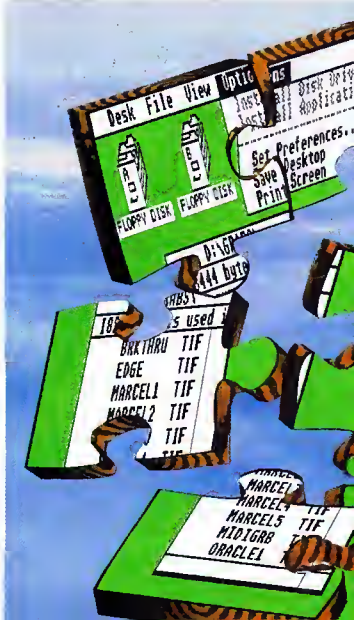
Insert an ST User CoverDisk into the



Opening up a window on an old ST User CoverDisk



Changing resolutions on a TOS 1.6 STE



drive and turn on the computer. If you're working with a television or colour monitor, put your ST into medium res so that you can fit a little more onto the screen. This is accomplished by selecting Set Preferences from the Options menu, then choosing medium resolution and clicking on OK.

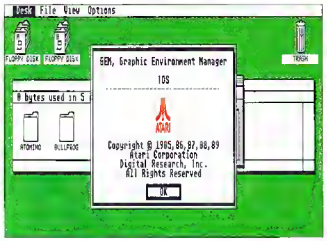
Backing up a disk is the first hurdle faced by inexperienced users. You'll obviously need a blank disk handy, which will need formatting before data can be stored on it. The formatting process merely places special information on the disk so that the ST can read the disk and knows where to find and store files.

Make sure the disk you want to format is write enabled, with the little sliding black tab covering the hole, and the CoverDisk is write protected with the slider positioned so you can see through the hole. Never leave a disk with your one and only copy of important files write enabled. It's easy to accidentally erase files or contract a destructive virus.

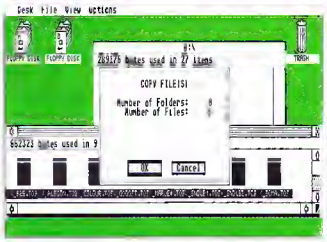
Place the blank disk in the drive and click on the Disk A icon so that it turns black (this shows it is selected), then select Format from the file menu. The ST may ask if you're sure – if so, click on OK. Then you'll see the format alert box. Click on OK again to begin the process and sit back and wait a couple of minutes. When the job is finished you'll be told how much space is on the new disk.

Now double click on disk B and you will be asked to Insert disk B in drive A. Place the disk you want to back up in the drive. A window will open containing icons for every file present on the disk.

Depending on how many files are on the disk, you may not be able to see every file icon. By clicking and holding on the window re-sizing icon (the square-shaped one in the bottom right corner of the window), you can change the size of the window so that you have more room for viewing icons.



Find out what year your version of TOS dates from using the Desktop Info option



Dragging all files from one disk to another is the most basic file copying operation

Also, you can change the way files are displayed by selecting Show As Text from the View menu. This changes the icon view to a simple text view allowing even more files to be seen at once.

Now "rubber band" all of the icons by moving the mouse pointer to the top left corner of the window then clicking and holding down the left mouse button and moving the mouse to the bottom right corner of the window. Doing this "draws" a box on the screen. Make sure the box contains all the files you want to copy and then release the mouse button and anything that was inside the box turns black, meaning they are selected.

This rubber band method is ideal for selecting a large group of files quickly. Alternatively, you can click on individual files to copy whilst holding either Shift key down.

Once all files have been selected, release the mouse button, and then click on any one of the blackened icons and drag it onto the Disk A icon so that it too turns black. Let go of the mouse button now and a Copy Files request box will appear. Click on OK and the copying process will begin.

Swap disks when instructed to, remembering that disk B is the coverdisk and disk A is our formatted disk. When the copy is finished you can close the disk B window and open the A to check that all the files are indeed there.

COPYING

Another method of copying the entire contents of a disk is to put a formatted disk into the internal drive, open disk A's window by double clicking on the drive A icon and then drag disk B's icon into it. You will then be asked for disk B, which is the disk you want to copy. You then simply follow the on-screen instructions, swapping disks as requested.

This method is useful if you have so many files on a disk that you just can't get a big enough screen display to view and select all the icons with the mouse.

Many people who rang the ST User CoverDisk hotline complained about problems backing up disks. Normally this is because they have tried simply dragging the disk A icon on top of the disk B icon and following disk-swapping instructions. Doing this instructs the ST to copy a disk sector by sector rather than copying on a file-by-file basis. This is sometimes referred to as a "verbatim" copy.

Unfortunately, the verbatim copy procedure is rather un-intelligent in that the blank disk you are copying to (the destination disk) must be formatted in exactly the same way as the disk you are copying from (source disk). If it isn't, an error message is displayed and the copying process aborts.

A standard ST formatted disk has 9 sectors and 82 tracks giving approximately 726 bytes of free disk space. This can be improved through use of special formatting utilities which allow you to format a disk with 10 sectors and even 83 tracks, giving over 800k per disk.

COVERDISK

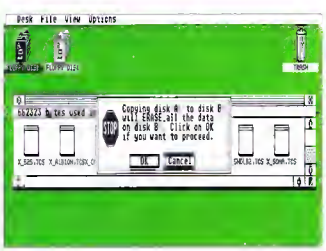
All ST User CoverDisks are formatted using a formatting utility to 10 sectors and 82 tracks to fit more programs on, thereby giving greater value for money. Therefore the CoverDisk cannot be copied using the verbatim copy method as the disk is formatted differently to a standard ST disk.

You can overcome this problem using the previously explained method of dragging disk B's icon into disk A's window, or by using a dedicated copying program (explained later).

However, as ST User's CoverDisk sometimes contains over 726k of data, you will need more than one disk if the disk you are copying to is a standard ST formatted disk.

It should also be remembered that most commercial games cannot be backed up at all. And since it is in most cases illegal to do so anyway, there is no point in attempting this.

Another common stumbling block is in renaming files and folders. To rename a file or folder (although folders cannot be renamed on TOS versions 1.0 and 1.02), select the icon and click on Show Info from the File menu. An alert box giving details about the icon will appear, and on the top line you will see the icon name which can be changed by using backspace

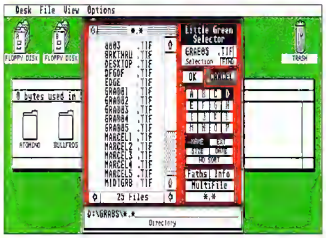


Dragging disk A onto disk B only works when they're both formatted in exactly the same way

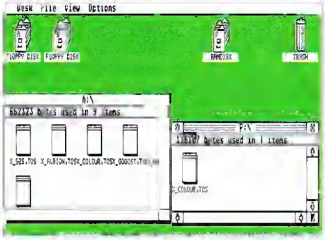
➤

to delete the existing name and simply entering a new one. Click on OK when you've finished, and make sure the disk is write enabled.

Moving files is another feature that only TOS 1.4 and later versions boast. When dragging a file for copying, hold down the Ctrl key until the mouse button has been released, and a Move File requester will appear. This copies the file and then deletes the original, meaning you still only have one copy of the file but in a new location.



The Little Green File Selector in action



Installing a RAMdisk makes tedious copying operations far swifter

The easy life

After copying a few disks you'll no doubt start to get fed up with constantly swapping disks. There are two ways around this problem. The first is to get hold of a good copying program, such as FCopy3 (Fastcopy 3), which is in the public domain.

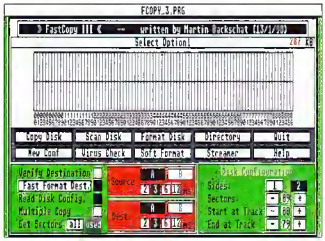
Being in the public domain means that for little more than the price of a disk you can obtain the program – scour the PD adverts in a typical copy of ST User and you'll soon find it. This reduces the copying of entire disks to a simple and easy task with only a couple of swaps. The majority of copying programs also format the disks automatically.

The other option (I'd advise both for real ease of use) is to obtain a RAMdisk program, also from a PD library. This is a section of memory which acts as a very fast disk drive. If you wanted to copy lots of files from one disk to another but didn't want to swap disks lots of times, you would copy the files instead into the RAMdisk until it was full, and then Move them from the RAMdisk onto the other disk.

Having a RAMdisk makes file management so much simpler. Just make sure you remember to save the contents of the disk to floppy before turning the machine off, otherwise your valuable data will be lost forever.

There are numerous popular programs, including the Turbo RAMdisk, the contents of which remain intact even when the machine is reset. My personal favourite is the ageing Fast RAMdisk, primarily because of its simplicity. It involves creating an AUTO folder (select New Folder from the File menu) on your boot disk. A boot disk is the disk that is in the drive when you turn your ST on, or "boot up", and any old formatted disk will do for this. Copy the Fast RAMdisk program into the AUTO folder. There is also a tiny file called RAMDISK.INF, which contains details of how big the disk will be. Although you can change this using a word processor such as First Word or ST Writer, the program is usually supplied with a RAMDISK.INF file that defines a disk of about 100k, which is about as big as an unexpanded ST can cope with. This file needs copying into the root directory (that is, on the disk but not in any folders).

Then select drive A and go to Install Disk Drive in the Options menu. Press Backspace and change the Drive Identifier letter to P. Then use the down arrow and Backspace to change the Icon Label to "RAM disk" and click on Install. A new disk icon will appear on the desktop. Drag it to wherever you would like it to be situated – below drive B is fine – and then go to Save Desktop in the Options menu.



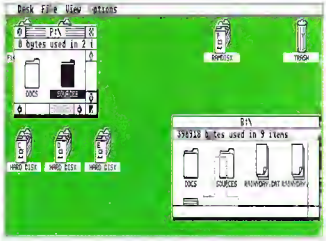
The simple way to copy disks – Fastcopy 3

QUICKER

Now reboot the computer, remembering that if you've got an early STE you will then have to re-select medium res. Whenever you boot with this disk in the drive, a RAMdisk will be created which will behave in every way like an ordinary disk drive, only far quicker. In fact, it's like having a miniature hard drive but a lot faster and far less expensive.

The downside is that RAMdisks take up precious memory and are lost if the power is cut off to your computer.

If you have an ST with more than 1Mb of memory fitted, having a large RAMdisk installed can make de-archiving CoverDisk programs very quick too. Copy the archived file into the disk, run it, and it decompresses rapidly. You can then copy it to a normal disk. On 520STFMs and STEs though, with only 512k of memory in total, it is important not to get carried away if your RAMdisk program lets you choose the size of your drive. If you do have the memory, some programs can even be run from the RAMdisk, making their operation very speedy. I used to run Timeworks, a large DTP program, entirely from a RAMdisk since it was very slow from floppy. There will be programs that refuse to run this way, but the worst that can happen is that your ST will crash, so as long as you've got a copy of the RAMdisk on floppy you'll be all right.



Decompressing archived files using a RAMdisk makes the whole process faster

Abandoning the GEM Desktop

Although to begin with the desktop may seem confusing and complex, once you start using it regularly you will find it simple – perhaps too simple and lacking in powerful features. The experienced user wants things to be as quick and effective as possible with the minimum of fuss.

When you inevitably get tired of being told that "You cannot drag applications, files or folders onto the Desktop", perhaps it is time to look for a replacement for the standard GEM desktop. TOS 2.0S and later let you drag files onto the desktop itself, but earlier versions do not.

REPLACEMENT

Fortunately, PD software again comes to our aid, with quality replacements such as Teradesk and Kaosdesk being cheap and versatile. More sophisticated commercial offerings include Neodesk and Gemini. They do have the drawback of having to be loaded from disk every time you want to use them, since they are not stored on ROMs inside the computer like TOS.

But once you are used to leaving commonly used programs lying around in convenient locations on the desktop, particularly if you are a hard disk user, you'll wonder how you ever managed before.

If you want more flexibility without going so far as replacing the entire desktop, programs such as Selectric and the Little Green File Selector replace the TOS version and add extra features such as letting you format disks from the file selector.

There are numerous programs out there designed to make life easier for the average user, and you'd be well advised to get hold of some of them because they will change the way you work considerably.

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This is an unbeatable offer for all gamers – an Atari joystick for just £2.99.

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This SVGA high resolution mono monitor has been specially modified to work on all STs and is ideal for such applications as DTP, music and word-processing.

It features a 14-inch FST screen for superb picture quality and has front mounted controls for power, brightness and contrast.

Also featured is a swivel base and rear controls for picture size and positioning,

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GREAT WAYS TO UPGRADE

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An external floppy drive which plugs straight into the back of the ST can benefit every type of user – from games player to publisher.

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With more and more memory-hungry programs being launched for Atari computers, there's never been a better time to upgrade yours.

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We've put together options for all types of Atari enthusiast – and with the STFM boards you'll be able to extend the memory up to 4Mb of memory at a later date.

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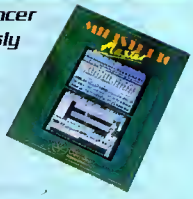
saving ways to stretch your ST's limits...

Midi Studio Master



This Midi sequencer – which previously sold for £99 – enables you to turn your ST into a fully-fledged music controller.

With this software and compatible synthesiser keyboard you can write, store and playback stunning compositions just like the professionals.

Its features include 100 track storage, 240 PPQ resolution, Midi standard file compatible, real-time mix-down via mouse, real-time scrolling arrange window and pipeline module system.

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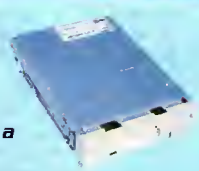
Internal Drive



Imagine the advantages of upgrading a single-sided floppy disk drive to a double-sided version.

If you're still using the old style single-sided drive, then you'll have already found that most of the latest software doesn't work with your ST. Replace it with this internal model and you'll be able to run all programs, including your existing collection, and have double the storage capacity on every disk.

The drive is easy to fit but because official Atari drives are no longer available, some small alterations will be needed to the ST's case.

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TOS upgrade

Give your ST the extra features and improvements of the latest operating system but keep compatibility with all your existing programs.

With TOS 2.06 you'll be give your computer a brilliant new look, and have the ability to put frequently used folders and files onto the desktop for easy access.

Extra icons are available for folders and hard drives, keyboard shortcuts make control easier, the desktop's colour can be changed and GEM programs set to run automatically.

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We realise that many ST owners would love the power offered by extra memory or the latest operating system but are put off by the prospect of fiddling about inside the computer.

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If you choose this service please don't send you computer just yet – once we've received your order an Upgrade Centre representative will arrange a convenient appointment time.

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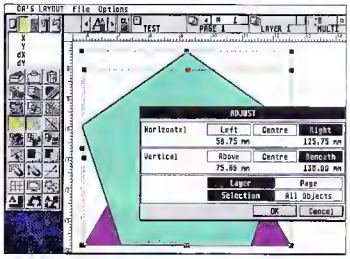
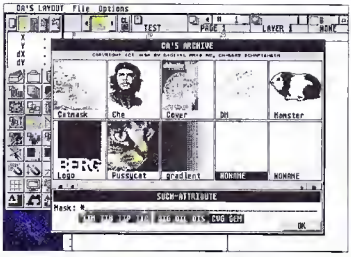
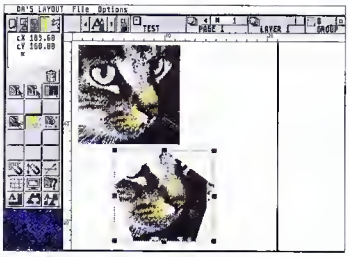


The automatic alignment of objects with each other is one of the useful new page layout aids. If necessary, the alignment can be restricted to selected objects and the active layer only



One of the modules available for separate purchase is DA's Archive, a sort of scrapbook capable of holding bitmapped as well as vector images of different file formats



Colour and halftone pictures can be trimmed to the shape of a "clip path" object from within the picture information dialog

Laying down

The DTP scene has been fairly quiet over the last year or two, but now that CGS have announced the launch of a major new version of flagship product DA's Layout, Günter Minnerup reckons things are about to hot up

Few major software packages for Atari computers can have a more interesting history than DA's Layout.

It started life a few years ago in Switzerland, where programmer Peter Eggers lives, as a modest "unofficial" editor for Calamus fonts to rival DMC's official product, selling under the name Didot. It gradually expanded into a capable vector drawing program marketed by German company CGS Computerbild, best known for their scanned image retouching software Retouche.

If DMC were not too keen on Didot's invasion of their font technology patch, its use of Calamus-style icons and similar user interface, relations between the two software houses plummeted to further depths when Didot grew into a full-blown DTP package, Didot Professional.

Although not quite in the same league as Calamus in terms of document-handling power, Didot Professional was much faster and elegant and particularly well suited to short design-intensive projects.

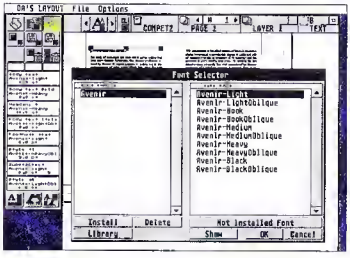
Above all, it made serious inroads into the German DTP market because it offered the one thing Calamus didn't: support of the PostScript font technology and page description language. Its ability to use, and even mix and match, both PostScript and Calamus fonts offered users the best of both worlds, not to mention access to the majority of PostScript-only commercial imagesetting bureaux.

When the programming team fell out with CGS Computerbild and set up their own company back in Switzerland called Digital Arts, Didot and Retouche Professional were relaunched under the rather clumsy titles DA's Repro and DA's Layout. Though both communicated easily with each other through common file formats – the TIC, TIH, and TIP subset of the industry standard TIFF for bit images – their user interfaces were found to be too different to make for an efficient combo and soon DA's Picture and DA's Vector appeared on the scene.

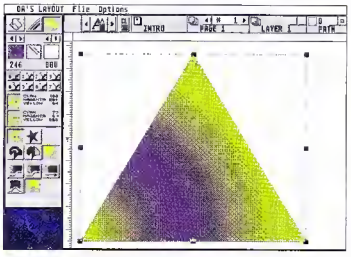
ESTABLISHED

The latter in particular quickly established itself as the leading Atari vector graphics (and animation) package, freeing development work on future versions of DA's Layout to concentrate on improved page layout and document handling capabilities. Another serious limitation of DA's Layout that remained to be tackled was its inability to run in anything but the monochrome ST High resolution.

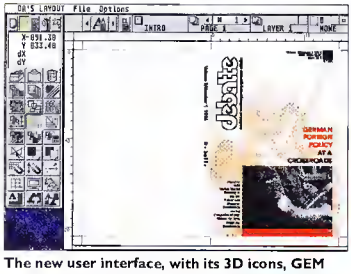
TC stands for True Colour – full 24 bit or 16.7 million different shades that is, not Atari's more limited Falcon True Colour. For owners of the appropriate graphics cards and monitors, this means a glorious photographic-quality page display, while in lower colour resolutions the software does its best to give a faithful representation of the original with dithered colour patterns. In practice,



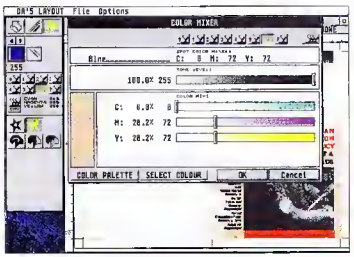
DA's Layout ability to create font families and save them to different font libraries. The new version adds further versatility by allowing the use of non-installed fonts



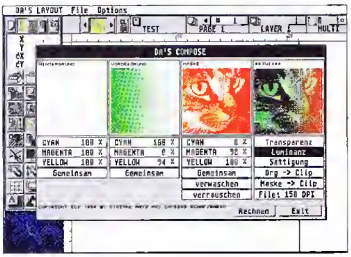
Unlike in DA's Vector, colour and halftone images cannot (yet?) be used as fill patterns, but such objects can now be imported from DA's Layout's powerful stable mate



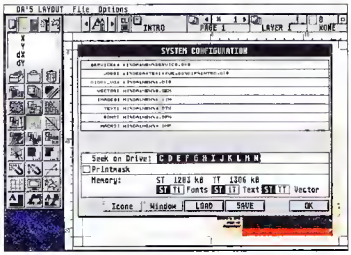
The new user interface, with its 3D icons, GEM dropdown menus and desk accessory slot, is very similar to DA's Vector's. Selected icons are highlighted in colour



In addition to freely defining your own colours and loading pre-defined colour palettes, you can now "pick" a particular colour from the page with the mouse



Another optional module, DA's Compose, makes available the filter functions of DA's Vector and can be used to achieve spectacular effects. The preview window is particularly handy



The configuration dialog is now accessed from a dropdown menu and offers some new options, such as restricting the program's search for files to certain partitions

only colour repro professionals with full control over all stages of their production process will be able to take full advantage of the True Colour capabilities for the notoriously difficult business of accurate on-screen colour correction, but TT and Falcon owners in particular will be relieved that the days of tedious switching back to ST Mono are finally over.

The most instantly noticeable change from the previous version of DA's Layout is the jazzed-up user interface. DA's Layout, like its great rival Calamus, has often been criticised for offering an impenetrable forest of icons to the novice user, and this version makes some effort to redress the problem.

a challenge

Some key functions – output, import, export, configuration – have been shifted into standard GEM dropdown menus and navigation between the main program sections and modules has been facilitated by new mode selection icons at the top of the screen.

CONFIGURATION

The 3D-style icons give greater visual clarity and can be repositioned to the user's liking in the configuration dialog. Keyboard shortcuts are still there, of course, and the same as in the previous version. There is also, at long last, a proper GEM desk menu rather than the cumbersome old method of clicking on an icon to activate the accessories.

Owners of DA's Vector will instantly recognise the extent to which the two programs have now been brought into line with each other. The menu options are virtually identical and many of the best features of DA's Vector have been added to DA's Layout. As one would expect, this includes its vector drawing functions: separate icons for lines and Bezier curves; graduated colourfills and blendings; search-and-replace attributes; the multicopy function, and many more.

Unlike DA's Vector, DA's Layout cannot directly use TIFF images as fill patterns for vector drawings, but this extremely useful feature is available indirectly to owners of both programs since DA's vector graphics can now be imported into DA's Layout.

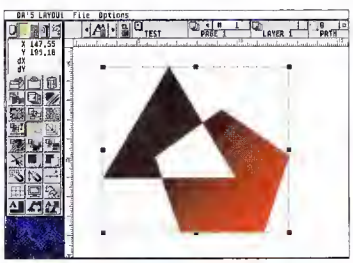
The greatest improvements, however, are to be found in the areas of text editing and page layout. DA's Layout is at last beginning to look like a dedicated desktop publishing program – albeit an extremely versatile one – rather than a vector drawing program with a few page layout facilities bolted on. The text piping has been completely re-coded and works properly now, allowing links to be freely defined between each and every text object.

IMPROVED

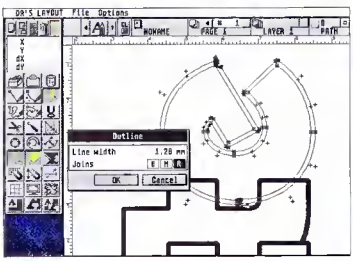
This should make the program much more useful for multi-page publications, even magazine and book setting. The text editor offers much improved cursor movement, formatting and selection facilities, and font management has been made a lot easier by the ability to use non-installed fonts and the automatic generation of type libraries from hard disk directories, with each folder representing a font family. A new "article form library" stores the style and format attributes of selected text objects without the actual contents, thus greatly simplifying the layout of magazines and newsletters.

The basic design philosophy of DA's Layout has always been to emulate the traditional graphic designer's light table, where different page elements can be moved around at will and are always within reach.

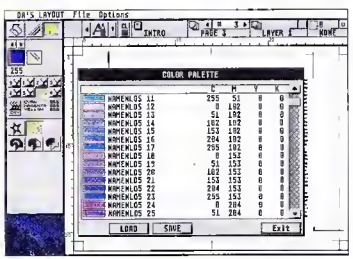
The different libraries and clipboards are an important part of that philosophy, ➤



Joining two separate vector paths into one will affect the area fill display and can be used, with a bit of practice, to generate very complex objects from simple component paths



Any path can now be easily converted into a true outline, with selectable line weights and joints (bevelled, mitred, rounded). This is most useful, of course, for text objects



Different colour palettes can be saved to and loaded from disk. DA's Layout's distributors also offer a PANTONE colour file but this was not included in the review copy

Calamus or Layout

So how does this latest incarnation of Digital Arts' desktop publisher measure up to its great arch-rival, Calamus SL? Such comparisons between competing packages are difficult as they involve delicate trade-offs between different features, but in this case the answer is fairly straightforward.

Calamus SL is still the undisputed heavyweight champion for multi-page book and magazine work, offering a plethora of document handling features such as automatic pagination, indexing, footnotes, on-line spellchecking, as well as much more sophisticated text import and editing facilities.

DA's Layout, despite the improvements in this department introduced in the new version, is simply not in the same league for this type of work. Calamus can also handle several documents at a time in different windows whereas DA's Layout remains restricted to one in a non-GEM window.

The Digital Arts package, however, wins hands down in the speed and flexibility stakes. The stunning rapidity with which you can navigate around long, mult-page documents containing thousands of words of text is simply amazing. For complex illustration work combining vector drawing and colour or halftone images, the features count is heavily in its favour and even without the page layout functions, it would still be the best font editor, auto tracer and vector drawing program around (bar DA's Vector from the same stable).

For many users, however, the PostScript compatibility alone will swing the decision in DA's Layout's favour; you can even combine Calamus and PostScript fonts in one document and output these either through a PostScript RIP (Calamus fonts being converted into PostScript Type 3s) or directly through the program's own, Calamus-like, soft RIPing routines.

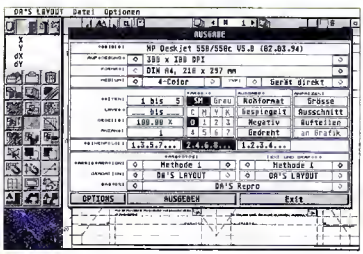
Output quality in both modes can be far superior to Calamus on low resolution devices such as laser printers because, unlike Calamus, DA's Layout preserves the "hints" in PostScript Type 1 fonts even after conversion to its own, proprietary DFN format.

Digital Arts claim to be working on a mouth-watering upgrade capable of importing and editing PostScript files from other applications, such as entire Quark XPress and PageMaker

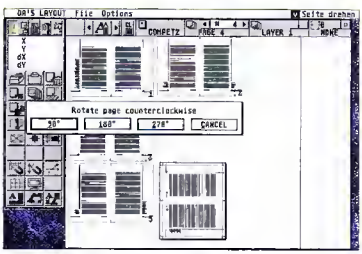
➤

and this is taken another step further by the Archive module which, rather like the scrapbook on the AppleMacintosh, gives instant access to "catalogues" of pixel or vector graphics irrespective of their precise location on the hard disk.

The "light table" approach is continued in DA's Layout's ability to combine different page sizes and shapes into one document, unlike other DTP programs which define a standard page size and orientation for the whole job. The new version takes this to its logical conclusion with a page rotation function for the best possible "imposition", avoiding wasted space on expensive bromides or film.



The output dialog now offers the long-awaited ability to print alternate pages (either odd or even) to use both sides of the paper just feed the output back into the printer upside down



The ability to rotate the pages in the work area can be useful when the most economical fit has to be achieved to save imagesetting costs, or when combining different non-standard sized pages

OMISSION

It is now also possible to define double page spreads with mirrored margins and column layouts – this was extremely tedious to achieve "manually" with the previous version,especially when large numbers of pages were involved.

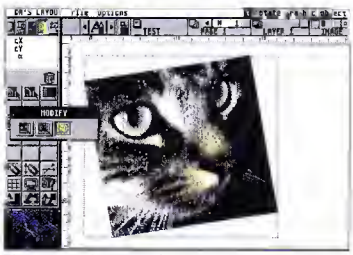
Unfortunately there is still no automatic page numbering which is a totally incomprehensible omission: there may be a way to work around this by defining appropriately sized "key frames" and then importing the text numbers as an ASCII file, but why should the user be lumbered with this procedure when any half-decent budget program can handle this task much more intelligently?

Another disappointment is the failure to provide better text import filters. The truth is that there are none, except forASCII text files. I would have thought that the more common ST word processor formats, such as First Word Plus and Protext, plus the increasingly common Rich Text Format (RTF), which also covers most PC and Mac word processors, would be the minimum one should be able to expect a £400 top-end DTP package to be able to handle.

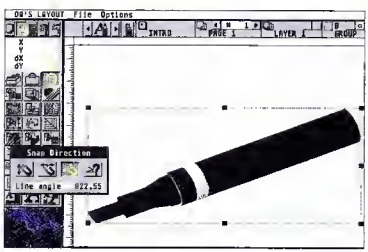
While talking about the price – £399 to be precise – it should be pointed out that this does not include all of the modules supplied with the review copy.

The font editor, the barcode module (extremely handy for book and magazine covers) and the autotracer are part of the standard package, but the Archive module mentioned above, the Colour Correction and the Composer module (see screenshot) have to be purchased separately, at prices as yet unannounced. The picture is complicated further by the planned introduction of monochrome and "Junior"versions, at £299 and £79 respectively.

The printed manual was not available at the time this review was written and, regrettably, the UK distributors have chosen not to continue support for Digital Arts' "Knowhow" on-line Help system - apparently because of worries over sales losses through software piracy.



Pictures can be rotated either under visual control, using the mouse, or you can enter a precise rotation angle into the units window in the top left



The versatility of the snap controls – always one of the program's strong points – has been further enhanced by the ability to "pick" the angle to which all operations will be restricted

BOTTOM LINE

FEATURES

Excellent
Good
Average
Bad
Appalling

The most powerful and versatile Atari DTP package for graphics power and line typographical control. Not so hot at handling long documents

EASE OF USE

Excellent
Good
Average
Bad
Appalling

Steep initial learning curve for those unfamiliar with the"light box" approach, but then very fast and intuitive

VALUE FOR MONEY

Excellent
Good
Average
Bad
Appalling

Not cheap, and the extra charge for some modules is a bit mean, but quality has its price

Product: DA's Layout TrueColour
Supplier: CGS ComputerBild, 231 Northborough Road, Norbury, London SW16 4TU
Telephone: 081-679 7307
Price: £399
Configuration: STE, Falcon, TT with at least 2Mb of RAM and a hard disk

Lost in Thought

You may be no Kasparov but, says Andrew Wright, with this new budget-priced chess game you'll soon be a grand master

Deep Thought, the brand new chess game from Germany, certainly plays a very good game of chess, but it also stores editable opening books containing hundreds or thousands of opening move variations, from the obscure to the commonplace.

The program can keep no less than 18,000 positions in each megabyte of RAM with a grand total of 66,000 on a 4Mb system. It runs on any Atari but as always it's a case of the more memory the better.

The opening books lie at the heart of Deep Thought's game. Without them you still get a good game but chess experts will soon find themselves winning far too often.

VARIATION

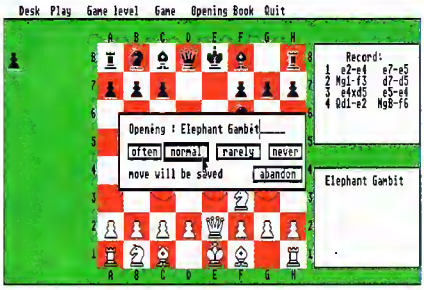
Their real value, however, is that you can add to them or create new ones as you see fit and assign to each variation one of four levels of probability: Often, Normal, Seldom and Never.

The latter is used to indicate bad moves to be avoided by the program while those tagged "Often" will be the most likely response when the computer is deciding its move.

You can create your own opening book based around particular openings for practice or teaching purposes. Take white's move of pawn to king 4, for example. You can assign black's response of P-K4 as Often with P-K3 as Normal and P-Q3, perhaps, as Seldom.

You then repeat the procedure for the remaining branches almost ad infinitum until you have more or less programmed the computer to play the way you would in any given circumstances. The program will recognise any position stored, even if it was arrived at in a different way to the one programmed.

Three opening books are supplied as standard, one for 520s, one for 1040s and a third for systems with 2Mb or more. A hard drive isn't required as the opening books are loaded entirely into memory.The opening books expand by around seven times their size when loaded into RAM and this can cause problems if you have accessories and AUTO folder enhancements installed. To load an opening book on a 520, all accessories and system utilities should be disabled. I initially had problems on a 4Mb Falcon which refused to load the 2Mb opening book with just a handful of accessories installed.



Adding a new opening sequence to the armoury. This one's a popular defensive opening

The program has an integral GEM interface with drop-down menus and display panels to the right of the central chess board. There is only one choice of board colour and two different sets of pieces but what it lacks in flexibility, it more than makes up for in clever play.

The difficulty with the current version is that the names of the openings are in German which is a pity. You can add and name your own of course but you'll need a German dictionary to work out what some of the standard openings are.

It would also have been a good idea to display the name of the opening as it was being played – an invaluable teaching aid. That said, once you've got the hang of it, you can delve quite deeply into the openings book and explore the various options from any given position. You can even print out entire opening books or just the possible moves remaining, allowing you to analyse outcomes in impressive detail.

For hard copy, any ASCII-capable printer will do and this includes almost all Epson-compatible dot matrix types, Deskjets, bubblejets and HP-compatible lasers. Note that the release version 1.2 will work in ST medium resolution but the demo included on this month's CoverDisk only runs in mono. Many of the normal chess program features are included such as the ability to take back moves as far as you like, change sides, and load, save and print entire games or positions in ASCII format.

ANALYSIS

You can specify an arbitrary limit on the time per move, which will affect the level of the computer's play, tournament rules giving a maximum time for the game and you can even set up difficult positions for in-depth analysis.

This last facility is surprisingly successful and found three out of four mate positions from a beginner level chess book. Information such as time, date and level can be saved with each game or printed out for future reference and in analysis mode you can even see the computer's numerical verdict on your proposed move.

I'm no Kasparov when it comes to chess but I'm no slouch either and at just 20 seconds a move, I was struggling to win more than one game in three. Whether you're just looking for an opponent to play with or to learn more about the traditional openings, Deep Thought represents excellent value for money.

Editing the positions for end game analysis

The analysis feature on the right shows you how good your move is. If it's negative you're in trouble!

BOTTOM LINE

FEATURES
An unusual and illuminating approach to computer chess
Excellent / Good / Average / Bad / Appalling

EASE OF USE
Simple to use but let down by lack of manual and poor translation
Excellent / Good / Average / Bad / Appalling

VALUE FOR MONEY
At this price, who can argue?
Excellent / Good / Average / Bad / Appalling

Product:	Deep Thought v1.2
Supplier:	CGS, 231 Northborough Road, Norbury, London SW16 4TU
Telephone:	081-679 7307
Price:	£19.95
Configuration:	Any Atari, 1 Mb recommended

Ask any software house that used to develop for the ST why they stopped and they'll most likely tell you that piracy was one of the main reasons. With profit losses accumulating up to £25,000 per title due to games theft, companies became wary of investing time and money in Atari products and finally cut the umbilical chord that kept the ST games industry alive.

Software has since become less and less apparent for the machine – games developers no longer want to gamble their money away.

The same situation is hounding the makers of software for the Amiga, Mega Drive and PC. At the end of the day though, what can really be done to stop the cracking crews and thieves that have plagued the industry since its conception?

Up until two months ago, FAST (Federation Against Software Theft) was the only piracy watchdog of the entertainment industry. Its main focus however was the business side of software which left a gap that needed to be filled to suit the games industry's own particular needs.

Recently, the ELSPA council (the European Leisure Software Publishers Association) decided to create a crime unit (as reported in the news section last month).

This is an independent organisation designed specifically to combat the ever-increasing black market for illegal games software.

Atori ST User decided to pay John Loader, the principle figure of the new organisation, a visit to find out where pirates stand in the eyes of the law.

Cracking

The ST has been dealt a mortal blow by software pirates. Adam Phillips talks to John Loader, head of the newly formed Crime Unit, to ask if the authorities can really make a difference to the piracy problem

STU As head of the Crime Unit, is your job to focus specifically on the games industry?

JL Yes. As you well know, there is a lot of piracy within the games industry – car-boot sellers, mail-order pirates, computer clubs, CD-ROM copiers, cartridge-to-disk copiers and so on and they are all problems that need focusing on.

Obviously we have limited resources but having said that, we are trying to make an inroad in to all the different areas so that people are aware that they just can't get away with piracy.

If you never do anything about people who break the law they begin to believe that it's OK to break it. The problem is that if you get people young enough, they get brainwashed into believing it's all right to steal software.

We're talking about kids here as young as eight or nine who are happily swapping games in the playground and think it's perfectly OK. They don't even realise that there's anything wrong with it.

STU You're hardly in a position to be able to do anything about it though – you can't go in and arrest them can you?

JL No, of course you can't. I'm not really harassing children. What I want to do is stop the adults who are doing it so that we can get the message home to everybody.

STU So what can you do to stop the adults – sue, fine or imprison them?

JL The situation is that there is a piece of legislation in the statute books – the 1988 Copyright Act. It has a criminal section in it – section 107 – which makes it a criminal offence to do a number of different things with copyrighted software such as selling, distributing, making and copying it.

All these different ways of infringing software are considered under this section. The section carries six months at the magistrates court and in some cases, part of the offences are triable at crown court as well and the sentence goes up to two years.

On top of this, you can be fined several thousand pounds for each offence at the magistrates court or at crown court – virtually unlimited fines. So there's plenty of criminal redress in the Copyright Act. It's not something you can arrest somebody for but you can nevertheless summon them to court.

Consequently, we have developed a technique where, if we can get police or trading standards officers to take action on our behalf, we are happy to help them and encourage them to do it.

Because of ELSPA, members have put money into an anti-piracy fighting fund. I can also make private prosecutions as well as using outside investigators and our solicitors.

This allows us to go along to a car-boot sale, take the guy's stock off him, take his name and address, give out a summons, take him to court and prove an offence against him. That's what we do.

STU What about the cracking crews and bulletin boards. How large do you perceive the network to be and how can you stop them?

JL A massive question, a massive problem. During my time at FAST we encouraged three different police forces to raid three different boards – there are still a number out there which need looking at. I'm still looking at the situation but it's one of the many problems we're trying to crack down on.

Bulletin boards are very much on my mind, particularly the pirate boards. They come and go of course and after we busted a couple last year one

disappeared completely, the other disappeared for two or three months and popped back... I'm well aware of them.

STU **If that's the case, why aren't they closed down more regularly?**

JL The difficulty is not in finding them but finding the resource to go after them.

STU **The finances?**

A No, it's an area where I would very much like to get the police involved. I don't like to do a private prosecution on bulletin boards because it is a very resource-hungry operation. We need the input of the Crown Prosecution Service and some very technical people involved.

I'm well aware of the identity of most of the major pirate boards. I could get in to them tomorrow with the help of people that phone me from time to time with little bits of information.

There are quite a few people out there who were interested in stopping this as well. These include members of the public that see what's going on and don't like it – they frequently phone me, sometimes on an anonymous basis. With their help, I'm able to get into these boards and find out about all these different things.

From time to time, we like to do a headline grabbing bulletin board bust and then we go back to doing what else we're doing.

STU **So you would like more support from other sectors?**

JL I'm very keen on getting the police involved as far as the bulletin boards are concerned.

STU **Have they shown an interest?**

A Yes, on the three occasions I've done bulletin boards, I've managed to find a keen police officer or police department that's said "yes, we'll do this, this sounds interesting and different" and they have made a good job of it.

It's been a good result. As far as catching the cracking crews is concerned, that's like... I don't want to talk in clichés but...

STU **It's like trying to find a needle in a haystack?**

A (Laughs) Well, finding them isn't that difficult again but there are so many of them. Because it's a young man's game – despite the amount of older people in it – as fast as you get onto one group and think you've identified one or two of the members, you get all the youngsters coming along and the names change and you think "crikey, what happened then?"

I have to say that a lot of the cracking crews themselves are kids who are in it for the kicks and for the fun of the thing. I think the majority of them wouldn't dream of stealing a bottle of milk from a doorstep, but they'll happily steal thousands of pounds worth of software without blinking an eye.

They won't see it as theft of course, they'll see it as a dare, as a bit of fun.

STU **Do you feel that software companies and publishers could play a larger role in cutting back on unreleased pirating titles? All roads to this kind of piracy lead back to the software houses themselves – one dishonest individual can cause a severe profit loss.**

JL I think it's a very difficult thing for them to do – they certainly would do if they could. For example, you have quoted pre-released disks handed out to journalists. There are a number of software houses that actually have a policy in place of not releasing programs to journalists unless under the strictest of supervision.

STU **We have also heard that people such as programmers and PR reps themselves are handing**

down...

gear out. Can't companies do more than just "fingerprinting" the disks which are easily removed by cracking crews?

JL "Fingerprinting" is a good system and I don't think the cracking crews could do much about it. We're talking about one bite in several million.

STU **According to the crews we've been talking to, it is possible.**

JL I would be interested to talk to someone who knew exactly what you meant by that because I'm not a programmer I'm a policeman, so I wouldn't really know what a fingerprint on a disk looked like if it jumped out and bit me on the nose.

One job I did for one of the well known companies involved tracking a fingerprinted disk and I was able to do it. I defy anybody to find that fingerprint because it was literally one tiny little mark.

STU **The removal of the fingerprints is what we've been told is done. Is this true?**

JL Well, it certainly caught this guy because he didn't know that it was there.

STU **But isn't that the challenge for the cracking crew?**

JL Well, yes, of course it is.

STU **What powers would you like to have to deal with pirates – would you like to go up to their front door and arrest them?**

JL No, I don't think the power of arrest is high on my shopping list. The only purpose of arrest is to make sure that somebody comes before a court. For example, if you came across somebody committing an armed robbery, it wouldn't be satisfactory simply to summons him because he's clearly going to run away if he's facing 15 years.

With someone who's only facing a lower court fine, it's perfectly acceptable to summon them. So the power of arrest isn't important.

What is important is that I would like to see more police officers' basic training include computer crime, which at the moment it doesn't.

STU **What is the kind of sentence a cracking crew should expect if they are caught?**

JL If you could show that a group of people criminally conspired to contravene the copyright act, and that in doing so they had inflicted financial damage to the tune of six or seven figures on the software industry, I seriously believe you could expect them to get custodial sentences. It wouldn't be difficult to prove if it was a successful crew that had nabbed a few decent early releases.

Patch as patch can

Don Maple dons his OS cape and vows to rid the world of all bugs

No operating system, or for that matter no program, is free of bugs. It's only a question of how obscure a bug is or under what circumstances it raises its ugly head. According to Murphy's Law bugs occur at the most inopportune of times...

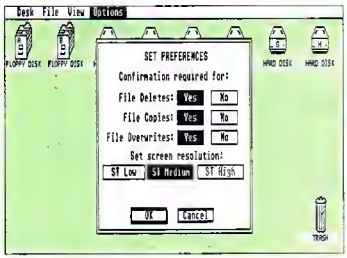
Fixing a program bug is relatively easy – once it's found, that is – because it only involves reassembling or recompiling the source code. In theory the same should be the case when it comes to operating systems. However, computer manufacturers are not too keen on releasing a new version of the OS at the drop of a hat. Due to OS complexity, fixing a bug in a rush often introduces another so they prefer to test the fix out before etching it in stone... erm... silicon.

So that's where patches come into play. Just like their cotton counterparts, an operating system patch covers a gaping hole. It normally consists of a short program which replaces and corrects a fault in the operating system.

The advantages of a patch are manifold. There is no need to upgrade the OS – which on the ST means replacing the costly ROM chips – and if the patch causes more problems than it solves it can easily be replaced or updated. Once a patch has proven its worth it can then be integrated into the next release of the operating system. In theory...

All fine and dandy but the reality does not play along with this neat plan. Sometimes people can't agree what a bug is, let alone how to fix it. For example, many programmers with tongue firmly in cheek claim that TOS or GEM themselves are bugs and need a fix in the guise of a full replacement like MagiC or NVDI.

Many patches go a step further and actually enhance the operating system by including new features, so categorising is not easy either. For example, a full-blown file selector replacement with many extra features like Selectric can't really be termed a patch just because it also fixes one obscure bug. In addition we will limit ourselves to an Atari machine without any exotic hardware or software as that would address the needs of most users.



Patches are available for some STE's which do not save resolution information

Although Atari do provide an odd patch here and there (some of those requiring patching too!), most are written by independent programmers who often know more about the OS than Atari themselves. Many patches are written by Germans who often only include teutonic docs so this articles gives help in deciphering these.

And after a journey of many light years all over the Internet, CIX and the legendary German Maus network we managed to compile a hefty two

megabytes of assorted patches for the ST and its relatives. That's two COMPRESSED megabytes! So what follows is only a glimpse but will hopefully make it easier to clean up your AUTO folder.

EXECUTE

For it is in the AUTO folder where most patches live. When the Atari is turned on, one of the first things the operating system does is execute the programs in the AUTO folder. Normally, when a program terminates it's also removed from memory. For patches this is often not a good idea because most – but not all – need to continue doing their good deeds even after officially terminating.

This is why TOS provides a way for a program to end but remain in memory and continue to run. In technical terms this is know as "terminate and stay resident" or TSR for short. Most patches are of this persuasion and this means that a patch may also reduce the amount of free memory. No need to worry though, because we are only talking about a few 100s of bytes in most cases which is a small price to pay.

Flopping about

Even those among us with a hard disk and two floppies will eventually come across a bug or two. Furthermore, some systems seem to suffer from weird hardware ailments which can be miraculously solved with software patches.

CACHE is an Atari program that does not fix any bugs as such but adds a disk cache to speed up disk access and it primarily applies to hard disk owners. There are actually two caches, one for the FAT tables and the other for data/directory. The cache is specified by renaming the program. **CACHE100** for example adds 100 FAT and 100 data buffers.

NBCBS is an independently written program which is functionally identical to **CACHE** – and even contains the same code – but it has the advantage that it can set data FAT and data buffers separately by renaming the program to **NBCBSF** and **NBCBSD** respectively.

DC Bit Set v1.0 is used to add the archive bit management which **GEMDOS** lacks. Whenever a file is modified or created, the archive bit will be set as an indicator that the file ought to be backed up.

Both **DC Light OFF v1.0** and **DRIVEOFF** stop the floppy drive spinning and turn its light off when the computer boots without a floppy or when the OS attempts to access the drive without a disk.

FLOP_FIX fixes various problem spots in the way **BIOS** talks to disks. The corrections fix erroneous checksum calculations, false media change detection and a tendency to overwrite system font variables when using disks with more than 13 sectors per track. This often occurs when formatting high density floppies. The same author also wrote the precursor **PATCHX06.PRG** which is identical to **FLOP_FIX** except it's limited to **TOS 2.06/3.06**.

FMC or **Force Media Change** fixes a hardware problem when the **OS** is unable to read the signal to sense a disk change. This might be very dangerous as data may be written to a wrong disk. **FMC** fixes this by always reading essential information from the floppy before writing to it.

FOLDR is another Atari patch fixing the infamous 40-folder problem present since **TOS 1.0**. The problem is that the system can only handle 40 folders and locks up if more are used which is easy to do on a hard disk. Atari insists that strictly speaking this is not a bug but a predefined limitation. Yeah right; design fault sounds more like it.

HD_FDC fixes a bug in the **TOS 2.06** which sets the floppy seek rate from the default 6 ms to the correct 3 ms. The floppy is in this way not only faster but it stops making that nasty grinding noise.

RESET cures the weird problem when the **OS** doesn't recognise a floppy drive after a boot. However, after performing a warm start the drive is miraculously back. It's a hardware problem which the **RESET** fixes by checking if a floppy is present. If it is, nothing happens but if it's not, a warm start is performed.

Serial killers

Ever since the advent of the Atari ST the most pervasive of all operating system problems have been serial interface bugs. It seems Atari just can't get this one right even though the problems have been well documented by independent programmers. At one point Atari did briefly fix the serial port but then inexplicably re-introduced the same bugs in a subsequent **TOS** release!

FAST_SER is an expanded driver for all types of serial ports within the Atari range both **MFP**- and **SCC**-based. It not only fixes all of the problems and provides faster baud rates but it expands it with its Extended Serial Device Driver (**XSDD**) protocol. Other programs can then use its features. The package also contains a replacement for the original Atari **MODEM.CPX** under the name **FSERIAL.CPX**.

HSMODEM1 is another complete set of replacement serial routines for all Atari's. Since it fixes all known problems any other patches can safely be removed. It too provides faster baud rates and has a separate driver for each comms chips used in various Atari's. These drivers can be customised to each user's needs with the supplied **SETTER** program.

HS_FIX fixes the **RTS/CTS** handshaking bug by using its own replacement routines. What's different about this patch is that the handshake can be turned off. However, the program only addresses the computers with the older **MFP** chip.

RS232ENC or **RS232-Enhancer V1.03** is another **RTS/CTS** patch. It also deals only with Modem 1 which is the port driven by the **MFP** chip.

RSRCADD or **RS-232 Receive Buffer Enhancer** increases the tiny default 256-byte system receive buffer up to 32k in size. This is particularly important for fast modems to avoid buffer overflow.

RS_103A also increases default buffer size up to 32k. However, it does that for both the receive and send buffers.

SERFX20 is the universal serial port patch incorporating the functions of Atari's own **SERPATCH** and the author's previous **RTS/CTS** fixes known as **TurboCTS**. It comes with a **CPX** to lock the **RTS/CTS** mode for sloppy programs which don't do this.

SERPTCH2 is Atari's own improvement on the original **SERPATCH**. It fixes the perennial flow control problem as well as Iorec(0) call on the Mega STE. In addition it fixes the parity problem on computers with the **SCC** chip and it throws away any bytes with a parity error.

Hatching Falcon's GEMs

Although there are many programs to modify various Falcon aspects, there are really very few true patches which are Falcon-specific. Honouring the tradition of being unable to write bug-free serial port code Atari managed to introduce a new bug in the Falcon TOS. Bconmap is not set properly and due to different hardware there is a 'hole' in Bconmap assignments.

FPATCH2 is Atari's own fix to initialise the sound system properly and attempt to fix the Bconmap problem. However, it brakes the cardinal rule by having two unrelated fixes in the same patch because that causes problems. For example, an independent patch, BMAPFIX2, fixes Bconmap in a superior manner but, naturally does not contain the sound portion.

Fortunately, the nature of the Bconmap problem is such that BMAPFIX2 can and indeed should be used together with FPATCH2. To clear up the confusion, FPATCH2 is based on BMAPFIX1 but BMAPFIX2 goes beyond FPATCH2 by also emulating the missing Bconmap.

BACKWARD II V 2.41 disables some of Falcon's features to make it more backward and consequently compatible with other Atari computers. For example, the processor speed can be slowed down, blitter and DMA sound can be switched off and available memory scaled down.

BOOTCONF enables the setting of various new Falcon options which are not available in the menus. Among others this includes the language, keyboard layout and date display.

FALCONSX2 is very similar in function to BACKWARD but it runs as an accessory making it very convenient to change options on the fly.

FALCVOLU turns the volume down during booting as some machines have a hardware problem causing the speaker to crackle.

FBOOT is another program to set various Falcon hardware settings at boot time.

FULL_RES increases resolution when a Falcon is connected to a TV or an RGB monitor.

REZ_FULL or Rez Fooler makes the Falcon think it has a different monitor connected to it. This is handy for using a multiscan monitor to emulate a TV or an RGB monitor required by certain programs.

SND_THRU connects the Falcon microphone input directly to the speaker output bypassing the Falcon sound system completely. It's unaffected by other sound programs locking the sound system.

TOS4TRAP or TOS4 Trap v1.0 monitors certain GEMDOS calls and makes passed parameters "TOS4 GEMDOS compatible"

Ramming ROM into RAM

Sometimes an OS function is too intimately bound up in the OS and can't be replaced. The solution then is to copy the ROMs into RAM and do the heavy duty patching there. The OS itself then runs from RAM.

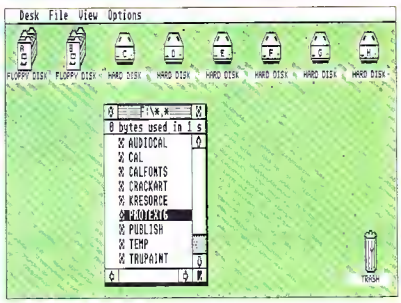
However, this ties up a sizeable chunk of memory so the only real alternative is to blow new ROMs. This is very common in Germany where magazines even print hex codes of required modifications. Many Germans also like to have a personalised TOS with their own name in the Atari box and fancy startup screens.

There are several programs to copy the OS into RAM such as ROMRAM, VRAM and ROMSPEED but GEMRAM is both PD and very reliable. It's customised to each TOS version which in the past meant local language ROMs, but with Falcon's multilingual TOS this is no longer an issue. The following patches require ROMs in RAM.

ARROWFIX v1.5 fixes GEM window scrolling routines. Starting with TOS 1.04 auto repeat in the scroll bars often turns a single click into a two-page scroll. Subsequent TOS versions added other problems which are all cured with ARROWFIX as well as enabling variable scrolling speed.

SHBUF v1.3 fixes the NEWSDESK.INF buffer which the TOS sets to a fixed 4k. Since GEM 3.0 this is often not enough resulting in weird computer behaviour as bloated NEWDESK overwrites essential TOS variables. SHBUF enlarges NEWDESK buffer up to 32k.

WINX 2.2 cleans up and optimises many window related GEM functions. It also enables up to 40 windows to be opened simultaneously.



The 40 folder limit is another buy which is fixed by a simple patch program

All and sundry

24BIT is an Atari patch which is only useful on machines with a 68030 processor. Some older programs which are not "32-bit clean" will run when this patch is active. The last release is marked as Revision 2.

BUTTNFIX is an accessory which cures the scrolling problem introduced in TOS 1.04 when a single click produces a two-page scroll.

CHK_OFLS or CHecK Open FiLeS monitors all drives for any open files and prevents them from being destroyed. GEMDOS can sometimes get confused. Also supplied is an accessory to display currently opened files on any drive or partition.

COOKIE program is an Atari patch used to retrofit the cookie jar on older TOS versions as well as expand the size of an existing cookie jar.

FIX_GDOS.PRG fixes the problem with the invalid VDI handle some programs have. Note, however, that this patch is for GDOS, AMSGDOS or NVDI only.

INSJAR 1.5 is an independently written program to enlarge an existing cookie jar or install a new one and fill it with default cookies.

MAKEFAST is an Atari program to set or clear the fastload bit in a program header. Setting the bit skips the long clearing of computer memory before a program is loaded.

MDIAL103 or MultiDialog V1.03 forces dialog boxes into windows. This is essential under MultiTOS but useful under TOS as well.

NOROACH is another Atari patch. It's used to set the length of time TOS will wait before trying to boot from the hard disk to give it enough time to speed up.

NVRAM11 is a CPX module used to set the non-volatile RAM parameters in TT/Falcon. Accompanying RESETNVR.PRG will reset NVRAM setting if they get accidentally destroyed.

PINHEAD in Version 1.8 retrofits the fastload bit on older TOS versions. This limits the RAM clearing only to the required areas of memory.

POOLFX92 improves on earlier versions 3 and 4 of the same patch by Atari. It compacts the memory pool.

OVFIX1 fixes the keyboard buffer overflow problem which manifests itself during boot time as a "stuck" key.

SHEL_FIX fixes all shell-related functions. In older TOS versions they only work for the desktop.

STESOUND sets the DMA sound in the Falcon to STE-compatible mode.

STE_FIX fixes the DESKTOP.INF bug on the STE.

TOS14FXS is based on the original Atari patch by the same name. It enables switching of RTS/CTS flow control and file name parsing routine.

TTGAMES is a suite of 4 programs to move MMU tables around on a TT. Some versions move ROMs to RAM and others even set the 24-bit addressing. The other three programs provide for running floppy boot sectors from the desktop with or without 68030 caches.

VDI-FIX repairs "holes" that are created in the linked list of VDI workstations.

Environmental clean-up

Environmental variables may influence global warming but on the ST they refer to the environment a program inherits when it starts up.

This usually means the program's directory path but is not limited to it as any program can set any variable it pleases. GEM itself uses the environment to find the .RSC file but this fails if the program is started from an inactive window. For instance, by modifying the environmental variable PATH= this need not occur again.

As always there's a catch. The default system environment is too small to do anything useful so a patch is needed to extend it as well as to provide an easy way of setting the individual variables.

DESKENV v 3.00 runs both from AUTO folder and desktop but it requires the DESKENV.INF file in the boot partition. This file contains all required variable settings including the size of the environment buffer itself. The size can, of course, only be set from the AUTO folder. DESKENV can also be run as TTP from a shell in which case a number of commands can be passed to it.

ENV.PRG also runs from the AUTO folder but it contains a CPX so that the variables can easily be inspected and modified. The program has two displays: Main where you select, reload, save or add new variables; and Edit where you edit and delete existing variables. ENV in version 1.3 allocates up to 1 KB of memory for the environment buffer.

ENVIRO system is composed of two programs: AUTOENVR.PRG and ENVIRO.ACC/PRG. The former runs from the AUTO folder and sets the variables according to the values in DESKTOP.ENV file and sets a cookie. The latter stores the current pointer into the base page of a program.

Patch work

Name	TOS 1.xx	TOS 2.xx	TOS 3.xx	TOS 4.xx	Comment
24bit	(68030 processor, TT and Falcon)				masks top 8 bits of an address
errfix15	(1.xx - 3.xx German TOSes only)			●	double scroll fix (needs GEMRAM)
bckw241				●	makes Falcon backward compatible to older STs
bmagfix2				●	Bconmap fix and MFP replacement
bootconf				●	sets various Falcon software options
buttnfix	1.04				double scroll fix
cache	1.04	●	●	●	adds FAT and data caches for disks
chk_clls 1.3	●	●	●	●	keeps an eye on open files
cookie	●	●	●	●	installs or enlarges the cookie jar
dchrtset	1.00 & 1.02				set archive bit for modified files
dcllofl	●				turn off floppy light
deskenv.300	●	●	●	●	manipulates environment variables
drivesfl	●				turn off floppy light
env 1.3	●	●	●	●	manipulates environment variables
environnt 2	●	●	●	●	manipulates environment variables
falconx2				●	sets various Falcon hardware options
falcvolu				●	turns speaker volume down during booting
fboot				●	sets Falcon hardware during booting
fix_gdos	(GDOS, AMIGDOS or NVDI)				fixes invalid VDI handle
flop_fix		2.06	3.06	●	fixes various BIOS disk routines
fmc	●	●	●	●	always force media change when writing
foldr	●	●	●	●	fixes the 40-folder problem
fpatch2				●	sound initialization and Bconmap fixes
fser096b	●	●	●	●	replacement RS232 driver
full_res				●	increases Falcon's resolution on TV or RGB monitor
gemram16	(1.xx - 3.xx German TOSes only)			●	copies ROMs to RAM
hd_fds		2.06			sets seeks rate from 6 to 3 ms
hsmodo04	●	●	●	●	replacement RS232 driver
hs_fix	●	(2.xx/3.xx MFP only)			RTS/CTS bug fix (MFP only)
inspar 1.5	●	●	●	●	installs or enlarges the cookie jar
makefast	1.06	●	●	●	sets/clears fastload bit in program header
mdial103	●	●	●	●	forces dialog boxes into windows
nbcbs	1.04	●	●	●	adds FAT and data caches for disks
nomach		●	●		wait for hard disk before booting
nvram11	(TT and Falcon only)				sets non-volatile RAM parameters
patchs06		2.06	3.06		fixes various BIOS disk routines
pinhead 1.0	●				retrofits fastload bit function
gcnfix92	1.04 & 1.06				fixes the memory pool
qvfix1	●				clears "stuck" key during booting
reset	●	●	●	●	does a warm boot when floppy drive not recognized
rez_tool				●	emulates a TV or RGB monitor on a Falcon with multiscan
rs232enc	●	(2.xx/3.xx MFP only)			RTS/CTS bug fix (MFP only)
rsrsadd	●	●	●	●	increases RS-232 reserve buffer size
rs_103a	●	●	●	●	increases RS-232 reserve and send buffers
serfix20	●	●	●	●	universal serial port patch
serptch2	●	●	●	●	flow control and SCC parity fix
shtvrt13		(2.xx - 3.xx German TOSes only)		●	NEWDESK buffer fix (needs GEMRAM)
shel_fix 1.3	●				fixes shell functions
snd_thru				●	connects Falcon microphone to speaker port
stesound				●	set Falcon DMA sound to STE compatible mode
ste_fix	1.06				DESKTOP.INF fix
tos14fix	1.04				RTS/CTS flow switch and file name parsing fix
tos4trap				●	makes GEMDOS calls TOS 4.x compatible
ttgames	(TT only)				move MMU tables and execute floppy boot sector
vdifix.111	●	●	●		fixes VDI workstation linked list
winx22	(German)	UK & Ger	UK & Ger	●	40 windows (needs GEMRAM)

ST in

Günter Minnerup reveals how the ST is being used in the Home Office to help compile forensic evidence for headline-hitting criminal prosecutions

The dramatic car chase to arrest O.J. Simpson, the celebrated American ex-footballer, and his subsequent trial on charges of murdering his former wife and her friend have been the media events of the year in the US, far eclipsing the soccer World Cup or any political news.

Even in Europe, you would have had to live in a remote valley without television and newspapers not to have heard of it. As in most trials where the defendant denies the charges and pleads not guilty, and there are no eye witnesses, circumstantial and scientific evidence inevitably played a major part in the court proceedings. Take, for example, the report on the front page of The Guardian of July 9.

"Bloodstains near the bodies of O.J. Simpson's ex-wife and a friend matched the former football star's genetic characteristics, a police investigator told a preliminary hearing in Los Angeles yesterday. He said fewer than 1 in 200 people have such a combination of markers...

"The millionaire celebrity has assembled a highly paid defence team and they immediately attacked the tests as unreliable. Mr. Simpson's defence attorney, Gerald Uelmen, pointed out that, with a population of eight million people in Los Angeles, the bloodstain could have come from any one of about 40,000 people."

There were no details in the report as to the precise nature of the scientific tests carried out, but the reference to "genetic characteristics" suggests that it involved DNA profiling, a technique widely used not only in American but also in British courts. Right, we've heard of that, you will be saying by now, but what on earth does this have to do with Atari ST computers?

The answer is that if the O.J. Simpson drama had been acted out in a British court, the preparation of the case for the prosecution would almost certainly have involved your favourite home computer.

The blood sample would have been analysed for its DNA profile by one of the six laboratories of the Home Office's Forensic Science Service, and the apparatus doing the analysis would have been a Biotrac manufactured by Worcestershire company Foster & Freeman.

The Biotrac consists of a lightbox , a CCD camera connected to a frame-store, a TV monitor, a hard disk and tape cartridge backup unit, an Epson printer and a Mega ST4 (earlier versions had 1040STFMs) and Atari SLM125 monochrome monitor, the Atari components cunningly disguised by having a "biotrac" label stuck over the Fuji logo and computer company name.

What is DNA profiling?

DNA stands for deoxyribose nucleic acid, a complex chemical which occurs in most human tissues and body fluids. DNA is like a chemical blueprint which determines how our bodies are built up. Each cell of the human body carries effectively identical DNA.

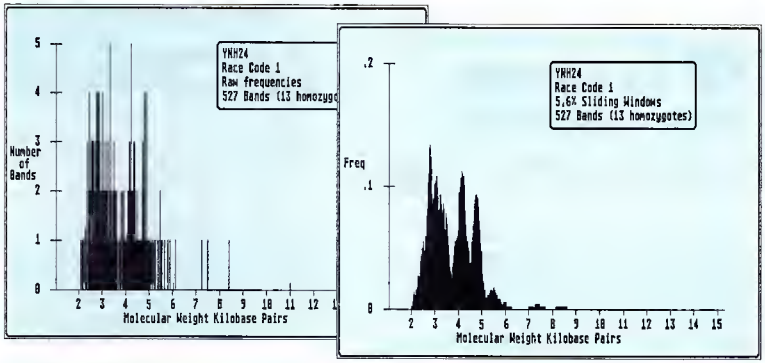
The DNA is a long linear "message". In places this message stutters and the number of stutters seen in different people's DNA will vary; one person's DNA may read "Mary hadhad a little lamb", another's may read "Mary hadhadhadhad a little lamb". The difference between the two individuals is that one has two stutters of the word "had" while the other has four stutters. Analysing a number of different "stutters" can show differences between different people's DNA, and can identify the source of a body fluid sample with a great degree of certainty.

DNA profiling works by cutting the stuttered areas of the DNA free from the mass of ordinary DNA. The stutters are then spread out according to size in a process is called "electrophoresis". The samples of DNA are applied to a slab of gel in separate tracks alongside each other and an electric current is passed through the gel. At the end of the process the DNA stutters have been sorted according to their size. The DNA fragments are then transferred onto a sheet of nylon membrane by a process known as "blotting".

Individual stuttered "words" are then highlighted on the membrane in a series of tests called single locus probes. Each probe reveals just one word; for instance one probe will reveal stutters of the word "had", another might reveal stutters of the word "Mary". The processes used generate dark bands on a photographic film. The size of individual stutters in different samples can be compared.

ELIMINATION

The first stage of DNA profile comparison is usually a "visual" comparison. This allows a good assessment of whether an individual can be considered to be eliminated as a source of DNA in a questioned sample. Having established that the suspected source can not be eliminated it is customary to carry out an instrumental measurement of the DNA profiles. The instrument used is a form of image analyser – the



The first graph shows the raw data as a histogram displaying the frequency of occurrence of bands of different sizes according to their position on the "autorad" snapshot produced by the electrophoresis. The second graph shows the processed data after treatment with K-Spread and a GFA Basic program. The data has been "smoothed" using a form of statistical processing called "sliding windows". The scientist, or rather the Biotrac software, looks along the x axis to find the size of the band which it is interested in, and then looks at the graph to see how common that band is – shown on the y axis

evidence

Not many people know that of course, and I only found out about the Home Office's unexpected attachment to Atari computers by chance through meeting Mark Webster, now a freelance forensic scientist but closely involved in developing the use of the Biotrac when he was working for the Forensic Science Service up to 1991.

Mark is still a committed Atari user both at home and in his business, but his was not another case of an Atari owner persuading his employers to give the "home computer" a try in a serious environment; it was the other way round.

When Mark was working on the first reference database for DNA profiling with the Biotrac – using GFA BASIC and Kuma's K-Spread 3 spreadsheet – he used to take the whole machine home with him in the evenings in plastic breadbaskets and eventually decided to buy his own ST since the hard disk alone would be more portable!

Soon the ST was pressed into service for other purposes relating to the project. An article for the internationally respected scientific journal "Electrophoresis" (the process of analysing DNA samples by passing an electric current through them, for those of you who don't have a subscription) was illustrated with the help of Degas and K-Graph, and reports sent out to police forces demonstrating the success rates of DNA profiling were prepared with Timeworks DTP.

These success rates were in turn based on data collected with the aid of the public domain program DBOne. "When the FSS was launched as an 'agency' in 1991 we had an open day to entertain the great and good," Mark recalls.

"We put on a display of the equipment we were using. We set up the Biotrac to display a rotating DNA helix by recording a large number of Degas frames showing a DNA molecule, each frame rotated by a few degrees. These frames were then put in a large array and we used a GFA basic program to step through the array, moving the start-of-screen pointer through the

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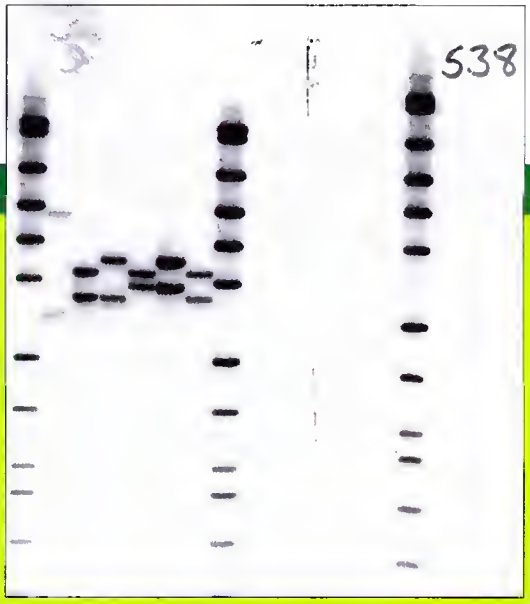
Biotrac – which measures the position of bands in the DNA profile with a high degree of precision.

Two DNA samples originating from the same individual should in theory give absolutely identical profiles. In practice "experimental error" – imprecision in the process used to create the DNA profiles – will cause there to be slight differences between the two profiles.

DNA profiles amongst close relatives tend to show similarities. It is possible that the blood stain identified as coming from the defendant could have come from a close blood relative such as a brother. If this is a realistic alternative allegation, a blood sample should be obtained from the relative who might be an alternative source of the blood stain. The frequency of a particular DNA profile will vary from ethnic group to ethnic group. Some profiles are more common amongst the white population compared with the Afro-caribbean population.



DNA samples are analysed by the Biotrac to a high degree of precision

As a freelancer, Mark Webster needs to attract business through advertising in specialist journals such as that of the Law Society. To get at those parts of the legal profession that the journals don't reach however, he has come up with the idea of a promotional beermat (or coffee mat, to preserve the profession's reputation for sobriety and alertness) based on artwork produced with Calamus and his HP Deskjet

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array. This gave a smoothly rotating double helix which looked pretty impressive!" The DNA molecule pictures were generated using Dr M. Forster's "Molgraph" from the ST Club.

Today, Mark Webster's two 1040 STFMs – one at home and one in his office – are used mainly for word processing his correspondence and reports, using That's Write, analysing data with K-Spread 3 and its companion program K-Graph, and preparing artwork for advertising his services in specialist journals with Calamus.

He makes no secret of his disdain for the self-appointed "computer experts" to be found in so many organisations these days who frown upon the ST as a "toy" because they have never taken the trouble to find out its true capabilities.

One particularly amusing anecdote he told me was of his days at the Home Office Central Research Establishment.

> *...he used to take the machine home with him in bread baskets*

Data from the ST was printed out and then retyped into their other computers because nobody had actually realised that ST disks were largely compatible with PCs, or that the ST featured a perfectly capable serial port.

For me, the discovery of ST-based Biotracs in the Forensic Science Service laboratories is yet another interesting example of the "hidden Atari" phenomenon – the many instances where STs give sterling but unacknowledged service in totally unsuspected areas, often stripped of their Fuji logos and even their grey plastic cases.

There are TOS chips quietly performing their duties in large publishing houses, industrial enterprises, research and development centres, government departments and public places which never receive the credit they deserve.

Watch this space for more such revelations – in the meantime, sit back and give your ST a smug pat on the monitor next time you read of a difficult case of murder or rape being resolved by forensic DNA evidence!

Mark now uses his ST for word processing mostly

The Biotrac machine

The Biotrac was originally developed to analyse photographs of the marks made by instruments, such as those left by a burglar's tools on door frames.

The Home Office Central Research Establishment, then at Aldermaston, acquired one in the mid-1980s for experiments with DNA profiling, but it wasn't until 1990 that it was generally introduced into the six Forensic Science laboratories for what is known in the trade as "single locus probe" DNA profiles.

In 1991 the first intelligence database was constructed of DNA profiles from unsolved crimes. The laboratory Biotracs were linked to a Prime SS0 computer at Aldermaston using the public domain comms program Uniterm, a GFA BASIC routine converting the complex Biotrac files to ASCII.

How does the Biotrac work? In essence, a DNA autorad (photo) is placed on the light box and the CCD camera takes a picture and stores it in the framestore. The mouse moves a

pointer on the TV screen to select samples of interest, and the software – written in Digital Research C – then scans each sample track producing a graph showing the DNA bands as peaks on a line graph.

The control samples (say a blood sample taken from a suspect) are compared with the questioned sample (say blood stain from the scene of the crime) and the machine produces a report indicating whether samples match, how closely they match, and the weight of this evidence. This is the number of people in the reference database who might have DNA bands in the same positions. Apart from forensic evidence in criminal and other cases (such as disputed paternity), the Biotrac hardware and software can also be used in general genetic research.

Biotrac's manufacturers in Evesham, Worcestershire, told me that production of the machine had ceased about a year ago since it had now been overtaken by new, PC-based developments from the US, but as the Biotrac was still in daily use by the six Forensic Science Service laboratories, they kept a few Mega STs in stock as spares just in case they were needed. According to the company spokesman, there had also been some "limited" sales abroad, to countries such as India and Spain.

It's Jaguar mania in this month's Write Now postbag. Read on

Write Now

Jaguar game reviews

I have been a regular reader of *Atari ST User* for some time now and have always enjoyed the mix of games and serious applications reviewed in the mag.

With the recent release of the Jaguar, will we see more reviews of games which are coming out for it?

I was fed up with the lack of new games releases for the ST as they seem to be predominantly old games released under a budget label, so I went out and bought a Jaguar, which I am very pleased with.

I now use my ST for DTP, music and other serious applications, which it excels at, but please increase Jaguar games coverage.

B. Leevey, Liverpool

As ond when games are available far the Jaguar, we will review them. In this very issue yau have a number af Jaguar games ta read abaut and there will be mare in the future.

As yau say, the ST games scene is nat what it shauld be, but saftware hauses haven't tatally abandaned it. Far instance, Silmarils have released Ishor 3 far the ST, which is reviewed in this very issue.

Jaguar not on TV

I am a little disappointed at finding you have to buy extra leads to connect your Jaguar to a monitor instead of a TV. I have a Philips CM8833-II monitor and need to know where I can get a lead to connect my Jaguar to it.

H. Strickland, Stake-on-Trent

The lead yau require can be abtained fram either Lightwave (Tel.051-639 5050) ar Silica Systems (061-832 8666). The actual lead is a campasite adapter cable which has three phana leads, ane far videa and twa far sterea audia. Prices vary but they shauld cast abaut £10.

I think Atari are trying ta keep the price dawn by not including all types af cables and have decided ta ga far the masses by allawing yau ta cannect yaur Jaguar ta a standard TV straight fram the bax.

Falcon worries

I am extremely worried at the apparent lack of development of the Falcon by Atari. They seem to be concentrating on the Jaguar and I get the impression that sooner or later they will dump the Falcon.

Am I just paranoid or is there a real danger of having wasted my money on the Falcon?

W. Edwards, London

It is unlikely that Atari will just drap the Falcan. Hawever, it is safe ta say that all their marketing effarts are being paured inta Jaguar pramatian sa same fall in Falcan marketing is inevitable.

Yau anly need ta laak at same af the saftware hauses and Atari develapers, such as HiSaft, Campa and System Salutians, wha are bringing aut dedicated Falcan saftware and hardware ta see that the Falcan

Waiting to hear from you...

To join the ST chat show drop a line to The Editor, Write Now, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

Jaguar Doomed?

I hear that id software, the creators of the PC game Doom, are converting the game to run on a Jaguar. Is this true and if so, when can we expect to see the game? Also, how will it differ from the PC version?

P. Marshall, Shropshire

It's true that Daam is being written far the Jaguar but na details are available yet. Rumaur has it that id are writing the Jaguar versian between their current PC wark, such as finishing Daam 2 – Hell an Earth.

Because it's still early days, there are na details an just haw Jaguar Daam will differ fram PC Doam. Hawever, I wauld guess that it wauld be quite a bit faster and smaather and will prabably allaw multiple players ta cannect their Jaguars tagether and play against each ather. PC awners need an expensive netwark card if mare than twa peaple want ta play.

It may alsa have mare calaurs compared ta the 256 an the PC. This is particularly interesting as Daam is quite vialent with lots af blaad, sa I wauld think the graphic artists may have a field day with all thase extra calaurs.

Which brings up an interesting paint. What with the recent rantings aver vialent games warping the minds af yaung children, Doam cauld came under clase scrutiny fram the "nanny brigade" wha may well try ta exert pressure ta either remave the vialent element (which wauld tatally destray the game) ar even ta ban it completely. We can anly wait and see

Doom. Lots of guns, lots of blood but in the end it's just little pixels moving on a screen isn't it?

Overscan's eponymous screen driver paved the way for an innovative string of hardware-hitting products

Some of the Overscan crew, left to right: Rainer Mannigel, Ben Sommer, Christian Gosslar and Patrick Jerchel

Scanning the

The changing line-up

Patrick Jerchel

Patrick Jerchel, boss of Overscan

Patrick's computer background is very varied. He got into computers, a PET 2001, while he was still a kid. Not having a machine of his own he'd go to department stores typing away at each location until he was thrown out. But the real beginning was at a new school where they programmed a Wang, with 12K core memory, to network to a CDC mainframe. Using a 300 baud acoustic coupler Patrick then learned Pascal.

The first computer Patrick actually owned was an Apple II kit. A full day and 6S00 soldering points later he literally could not see anymore. The eye doctor he went to smiled and told him to take it easy but also prescribed handy eye drops which worked miracles after a 12-hour day.

As a student Patrick supplemented his income by working as a programmer on mainframes including the Cray supercomputer. For about seven years he did statistical analysis and research at various institutes and universities using mainly Fortran. In 198S he returned to micros by building a 68000-based computer.

However, after hearing of the ST he got the Atari instead and registered as a developer right away. Today Patrick's main language is C although his management tasks don't leave him much time for programming. The TT on Patrick's desk hooks up into OverScan's heterogenous network.

Reiner Mennigel

Rainer Mannigel, hardware designer

The workstation-like setup Rainer uses today to put finishing touches on FalcoGen circuit diagrams is a far cry from his first computer, the Atari XL 600.

A friend with a ZX80-based machine got him interested in computers but TRS-80, VIC-20 or C64 were just too expensive. The Atari XL 600 he eventually bought was quickly upgraded to an 800 for more memory. Even though Rainer did some programming in Basic, his main interest was hardware.

The ST was a natural progression and, seeing the Hyperscreen upgrade in a mag, he built one himself. He was involved with a public access TV station and wanted to use the ST for video effects.

The next big upgrade was speeding up his ST which today has a 60 MHz processor and the board itself has been boosted to 1S MHz from the original 8 MHz. This makes Rainer's ST the fastest in Germany, benchmarking twice the speed of a TT! Rainer studied electronics specializing in video and his hobby has turned into a profession.

horizon

Like most great Atari ST companies in Germany OverScan started out as a one-man undertaking. That man was Patrick Jerchel, now OverScan's managing director. But it wasn't until Patrick met the two authors of the original OverScan hardware that the firm took the shape it has today.

In 1990 Patrick saw an article by Karsten Isakovic and Stefan Hartmann in a German magazine, and realised the commercial potential of their ideas. This came in the form of Hyperscreen, a hardware/software resolution enhancer for the ST monochrome monitor worked by boosting the shifter chip to its limits.

Patrick knew the guys from various hacker meetings around Berlin, so they met to discuss the details and decided to join forces and bring out an improved version. With Patrick's technical background the co-operation worked perfectly. He and Karsten implemented the hardware using GALs while Stefan designed the board which was his strong point.

Four months of hardware development followed and the original 1,000 assembler lines for the screen driver turned into 12,000. The product was eventually released as AutoSwitch-OverScan and it worked on all monitors including colour. The software drivers for the OverScan written by Karsten were a marvel of low level programming. The driver changed GEM resolution on the fly and since there were no approved methods of doing this, Karsten had to modify internal variables. This meant getting familiar with every TOS version out there and customising the software accordingly.

Over the years OverScan became a veritable repository with one of the largest collection of assorted TOS versions. Even German and French Atari subsidiaries would call OverScan for information.

DEVELOPING

The three then formed a company and started production. It all took place from home; Patrick did the manufacturing and sales, Karsten manned the software and Stefan the hardware hotline.

The original OverScan sold very well, so the three soon moved to an office and started developing other products. First up was the TT version of the OverScan in 1991 which was realised as a VME card. Next, Karsten wrote a SM 124 emulator for TTs with big screen monitors – very popular with TT owners in Germany – and the program was another big hit. It enabled users to run programs otherwise incompatible with the big screen either by displaying a background image with a small SM 124 screen in the middle or by increasing the SM 124 image to fill up the big screen.

Overlay II in action

Another notable OverScan product is VRAM 030 – a virtual memory manager written by an outside programmer, Alexander Herzlinger. Essentially such a program enables the computer to "think" it has more memory than is physically present. Such "imaginary" memory is called virtual memory. This an established method on mainframes and the trick is to use a hard disk for loading and unloading "pages" of memory as required.

The whole process is totally transparent to the program which you are running. The only prerequisite is a 68030 processor which has the necessary hardware so VRAM 030 runs only on the TT and the Falcon.

At the end of 1992 Stefan Hartmann, one of the original three founders, decided to leave the company and concentrate on the DOS market and, though the split was amicable, it caused a slight period of readjustment as he also withdrew his third of the capital.

This was soon overcome through new developments in the genlock area, in cooperation with a French company "Satellite et television". Even though they

➤

Ben Sommer

Ben's first computer was the first Atari, the 800 XL. In the beginning he did the same things other people do such as play games and generally explore the machine. However, when he started university he found the 800 too limiting to be used for word processing so he got an ST 1040.

Ben Sommer, harware designer

This was quickly followed by a hard disk which he connected using a home-made interface called OMTI which appeared in a German magazine as a DIY project. This plugged into the DMA port and provided a way to connect standard PC MFM hard disks.

The next bottleneck turned out to be memory so Ben built an expansion himself and later added an accelerator. A friend who worked for an official Atari dealer gave Ben an insight into other computers and Ben ended up doing upgrades for other people as well.

He also wrote software for himself at first in GFA-Basic and assembler, and more recently in C. Before working for OverScan, Ben studied electrical engineering. His programs are mostly patches and other hardware-orientated utilities.

Today Ben has a Mega ST with a 60 MHz PAK-3 accelerator and a graphic card to drive a 20-inch monitor which he uses for word processing and circuit board design.

Karsten Isakovic

Karsten is one of the most respected ST experts in Germany. Many of his programs such as the system monitor are legendary. He started out on a PET 2001 at school.

One of his first programs was a 3D rotating cube demo and an Eliza clone (conversation simulator) which confused his English teacher into thinking there was someone in the other room typing responses.

The first computer he actually owned was an Apple II at his parent's company. He worked on it for about four years writing all software needed for a middle sized business.

His first encounter with the ST was during a part-time job while he was studying electronics and this prompted him to get a 1040.

He then created the Hyperscreen with his friend Stefan. They both attended the Atari show in 1989 and met Sam Tramiel, who after seeing the insides of Stefan's heavily modified computer exclaimed the now famous words "What have you done to my Atari?".

Today Karsten is no longer with OverScan but does occasional contract work for them. Having completed his studies he now works at a Berlin university teaching computer graphics.

He still has his TT with a big screen monitor, while his wife and daughter use the old ST. Although he's fluent in many computer languages and familiar with numerous other computer platforms Karsten still programs his Atari with Pure-C (formerly Turbo C) and assembler.

already had an ST genlock they were more experienced on the Amiga.

OverScan's Atari expertise was therefore very welcome and with their input ST-PAL was released. It sold moderately but when it needed a major overhaul to use the new Falcon features, the French lost interest. OverScan then started working on their own hardware which is how FalcoGen was born.

At the end of 1992 Karsten Isakovic left the firm too but he continues to work for OverScan on contract basis.

Around the same time the idea for the ScreenBlaster came about. During the Atari show earlier that summer, OverScan received their Falcon developer machine, one of the first four in Germany. They also had a chat with Richard Miller, VP of R & D at Atari. He told them that the Falcon video chip was in theory capable of more resolutions by using an external clock, although Atari themselves did not try it.

EXPERIMENTATION

A couple of months later a new hardware designer, Ben Sommer, put this information to practical use and, after about a month of experimentation, he managed to boost Falcon's resolution within GEM. Prototype hardware followed and was introduced at an exhibition in Cologne in October 1992. However, Atari kept delaying the shipping of the Falcon, so OverScan redesigned the device to make it even more flexible.

ScreenBlaster was officially released at CeBIT 1993 and the first two customers were Atari VPs Richard Miller and Leonard Tramiel! The gadget proved a big hit with customers and can be found in about half of all Falcons in Germany.

Even though Atari did not attend CeBIT 94, OverScan flew the flag with Overlay II written by Karsten, Lauren Pruessner and Michael Huber. Originally envisaged as a simple title generator it soon emerged as full blown presentation software. Finally, the ultimate accelerator for the Falcon, Afterburner, was also announced.

COOPERATION

Last year OverScan and Compo decided to start cooperating more closely, this resulted in a joint German distribution company "ATTAC" to handle both product lines. The cooperation is also extending outside Germany particularly in the UK and USA, and recently a joint French branch "CompoScan S.A.R.L." was opened. The two companies also share a stand at various Atari shows.

But what makes OverScan such an exciting company is their unyielding and continuing support with innovative new products.

Afterburner turns the Falcon effectively into a Falcon040, FalcoGen and ScreenBlaster tap its video power and Overlay II finally makes true its early promise of multimedia.

Coming soon to a Falcon near you!

ScreenBlaster II

This upgrade to the original OverScan screen enhancer contains manifold improvements. The most apparent of these is that the setup menu is programmed fully in GEM even though it runs from the AUTO folder. To achieve this the program contains portions of the MagiC (formerly Mag!x) operating system.

Using the mouse and the scroll bar the user can now select from over 20 different default resolutions. In addition, the colour plane depth is also selectable. This is useful after a resolution change when the system reboots and the user wishes to change the resolution right there in the AUTO folder.

Overlay II

Overlay II is the only interactive presentation software program on the Atari. Having just gone modular, its "Hypermedia" module enables the user to interactively determine the presentation flow with the mouse. Overlay II also sports so-called sub-animations, used to split up the presentation into different segments.

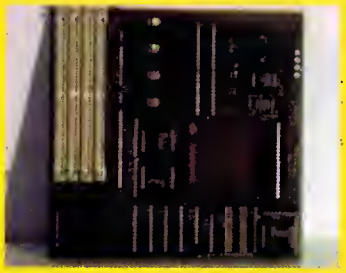
Another module, "FLI Player", plays back FLI animation sequences. Overlay II is also capable of invoking separate programs. For example, after the presentation, a database can be invoked for the user to fill in an order, an animation program can be run in response to a user's action or questionnaire responses can be saved to disk.

OverScan is using the system to present their own product information by showing a short demo and then listing all technical data. Each new OverScan product will therefore have an Overlay file with sound and graphics. After entering their own data the customer sends the file generated by Overlay either on disk or by modem to receive additional information or place an order.

Afterburner

This accelerator card with a Motorola 68040 clocked at 66 MHz speeds up the Falcon by 3-4 times giving it workstation performance.

It connects to the Falcon with an asynchronous bus which means it operates independently so it's theoretically possible to speed up the Afterburner even more by increasing its clock rate. All Motorola processors are capable of up to 30% more speed above their rating. The Afterburner card itself can have up to 64 Mb of fast RAM - also known as TT-RAM - which means it's fully dedicated to the processor and is not shared with the video. A standard programmable DRAM controller serves to take memory cards of almost any type or speed.



As if all that were not enough, Afterburner has its own 32-bit expansion slot for planned PCI and VME bridges to open the system to additional enhancements. A high-end VME graphic card can drive a second monitor and OverScan are developing their own chip to create a Motorola-PCI interface. The custom chip will also be made available to other companies.

In short, Afterburner is a very powerful computer in its own right. A prototype was sent to Atari's HQ in the US recently for a possible TOS licence and the feedback was very favourable.

FalcoGen

A genlock is a device which synchronises computer and TV images. As a result both video signals can be combined to produce various effects such as titling, where computer generated text is superimposed on top of video, or the TV meteorologist's weather map, where computer graphics are included within video.

A prototype the size of a video recorder is already running and the finished product will be a 19-inch rack-mountable device. FalcoGen uses all of the Falcon features such as the True Color overlay bit. It's also the only Falcon genlock that works in interlace modes which is very important.

OverScan have paid particular attention to image quality, maintaining a very high band width and the device works with both PAL (European) and NTSC (American) video. FalcoGen will be available in September at a price of 800 DM (about £330).

Darren Evans checks out a new addition to System Solutions' monitor range in the sleek shape of the MF-5315

Hey good looking

One of the most important decisions to make when buying a computer is what type of monitor you will need. After all, this is the piece of equipment which is the window to all your activities on your computer.

If your work involves graphics, such as DTP, then the best possible image is required. An increased range of screen modes have appeared since the release of the TT and the Falcon, and due to third party products like Crazy Dots, Blowup and Screenblaster have enhanced and enlarged the available screen modes .

So you need a monitor which is flexible, both in its ability to handle the different frequencies involved in different resolutions, and in its external controls for "fine tuning" the visible image.

This is just what the MF-5315 from System Solutions offers with front mounted push button screen controls and a good range of horizontal and vertical frequencies (see "tech specs" box).

The monitor itself is manufactured by Idek, a well established and respected manufacturer of some of the best (and most expensive) computer monitors available. From the range of frequencies available, it is clear that this particular monitor, with its 15" FST tube, is aimed at the user looking for the superior screen quality required for serious work, such as DTP.

With a minimum horizontal frequency of 29.5kHz, the monitor will not work on standard STs or STEs, but is aimed at those with suitable graphics card, such as Crazy Dots, or TT and Falcon owners.

These days, I find even the 5T's 640 x 400 high resolution mono screen mode somewhat restrictive, particularly when using DTP applications where it would be nice to see as much of the page you are working on as possible, as well as having room for those useful "toolbars" for quick and easy access of common functions.

In conjunction with "big screen" utilities such as BlowUP – a screen resolution enhancement product also available from System Solutions – resolutions of 1024 x 768 are available on the MF-5315 (non-interlaced) with excellent picture clarity.

Like most good quality monitors, this has external controls which allow you to move the picture horizontally and vertically and also allow the image to be stretched or squashed.

We are all individuals and I for one am annoyed when faced with a monitor that doesn't allow you to alter the picture size and position. I hate with a passion the horrible (and BIG) screen borders which are evident on some monitors.

These are often pre-set at the factory to ensure the working screen area is within view on whatever computer it is attached to, but more often than not it is vastly overestimated giving a claustrophobically undersized image.

CONTROL

I prefer to have as much control as possible over the visible image so that I can extend the image to the edges of the screen with the minimum of border area.

Thankfully, the MF-5315 isn't lacking in this area, with push-button image controls as opposed to the common "thumbwheel" type. They are also conveniently located at the front of the monitor for easy access.

Other front-mounted controls include the push-button power switch and brightness and contrast thumbwheels.

The monitor comes with integral video lead which ends at a standard 9-pin D-type connector. This means you will need a VGA adapter to connect it to a Falcon and System Solutions can supply this for £10.

If you are in need of a monitor which can provide good image clarity with large resolution capability, the MF-5315 should be top of your shopping list.

A good quality image is essential for those working with graphics packages and the MF-5315's 15" FST tube gives you just that

If you can put up with some flickering, the MF-5315 can handle resolutions up to 1024 x 1024 using screen enhancers like BlowUP

MF-5315 tech specs

Horizontal sync
29.5kHz to 68kHz
Vertical sync
50kHz to 90kHz
Monitor dimensions
372 x 380 x 385mm

BOTTOM LINE

FEATURES

The extensive image controls mean you're not stuck with factory settings

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Being an auto-scan monitor, it switches frequencies automatically. Dead easy

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

You'd be hard pressed to find anything cheaper with similar specifications

Excellent
Good
Average
Bad
Appalling

Product: Harlekin 2
Supplier: HiSoft, The Old School, Greenfield, Bedford MK45 5DE
Telephone: 0525 718181
Price: £59.95
Configuration: All STs and TT

PUBLIC SECTOR

The ST market is not at its best, but as long as there's PD there's life in the machine yet. Adam Phillips reviews

Public domain and its availability is the last defence in a computer's life cycle before oblivion. When the public stop using the machine for their programming exercises and efforts, it means that not only have the commercial big boys and girls of the industry turned the back on the flagging machine, but so has the existing user base.

How fortunate then that the ST PD scene is still buzzing with disks falling on to the desk at regular intervals. Let us hope it stays like that.

Medieval Chess

Programmed by: JV Enterprises

Available from: Goodman International
Disk No. GD2290

Cast your mind back a few issues ago and you may well remember the reasonable Dungeon Master clone, Towers, that graced these very pages.

Sailing its way across the Atlantic to the murky shores of Britain is an American program by the same authors which takes one of the ancient wargames of human history and adds a 90s twist to the proceedings.

Giving the player a bird's-eye view of the board-battling action, the object of the game has been documented through thousands of books and television programmes and therefore will not be explained in the humble pages of *Atari ST User*. Needless to say, destroy the king and gain the opponent's throne.

Action is very reminiscent of *Battle Chess*, with humorous figures and lumbering rooks with clumping feet that help breathe some life into the well worn but excellent original concept. Where Medieval Chess takes a risk though, that few would dare for fear of upsetting the purists, is the combat system.

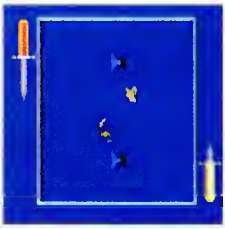
When one piece goes to take another there is no instant strategy-gratifying victory, but an arcade section where the two opponents must fight each other to the death in an arena.

Each set of characters have a different weapon. Pawns clutch a rather inept spear, knights move quickly on horseback and have to attack their foe from the side with their swords, and the duo of queens hurl fireballs with devastating effect.

Single block walls offer some cover from the characters that have projectile weapons but can be destroyed, leaving you sitting like a lame duck. The only gripe is the sluggish control of the characters but cursing at the enemy as he wades into you with a lump of rock, sending your pawn to an early grave, soon distracts from the slightly clumsy movements.

The winner of the tournament keeps the square on the board and the system adds a whole new angle to the game. It's possible for a single pawn left on the board to win the game against a barrack of foe, which may make chess purists' toes curl in mortification but makes for a less strategy-orientated game, with more of an emphasis on arcade skills and manoeuvring.

Medieval Chess is an excellent piece of PD software which, coupled with a two player option, offers gameplay that is both addictive and thoughtful.



Use your extra-curricular chess skills to impale the opponent on the end of your spear

Interesting Mathematics Manual

Programmed by: ETC Software

Available from: Floppyshop
Disk No. EDU 4584C

Interesting? Maths? So, it may well be a hard title to swallow if you're a teenager more interested in the delights of physical contact than the rather stale and usually stifling experience that is education, but the team behind this program have made a determined effort to liven up the text-heavy, number-choked subject that is mathematics.

Aimed at the 11-14 year-old market, the package offers a comprehensive guide to different geometric shapes such as circles, cubes, cones and so on. Each is explained in great detail with diagrams, definitions, formulae and their uses.

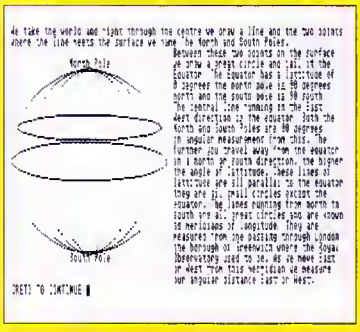
Other topics are given the computerised treatment with the mechanics of the longitudinal difference between local and GMT making an appearance.

After soaking up all this information, it's time for a series of questions and answers to test your memory skills and understanding of the newly acquired knowledge.

In the instructions, it is suggested that the program could be used in the classroom as a teaching aid or videoed to let students take home.

While this is an admirable and worthy attempt at taking a different slant on a usually non-starter subject for engaging a youngster, IMM is still too verbose, with screen after screen filled with text.

The graphics are also bland and uninspiring which, in this day of sprites and parallax scrolling, isn't going to pull a young learner away from the likes of Cannon Fodder as soon as the parents are out the room.



Find out about cubes, spheres, cones and all sorts in this educational title

Mindmelt

Programmed by: David Clifford

Available from: New Age PDL

It's sometimes quite remarkable how games imitate real life and more specifically the human race. Take a relatively unattractive person – society dictates that these people, while not visually attractive, have a personality of gold, that beauty is only skin deep. Indeed, the theory is supposed to work the other way round as well.

This concept applies more often than not to the games industry. Take Psyngnosis games – very beautiful to look at but as a general stereotyped rule, oh dear, there's not a lot there in terms of depth. Another thirty quid down the drain.

Mindmelt falls into the "ugly" category which is unfortunate for the title because it could put people off playing it for more than five minutes. Its looks are quite remarkably embarrassing, even when alone with it in a darkened room with the lights turned off and the curtains drawn.

The game itself is rather a surprise. Despite a fiddly operating system and dire parser, this adventure title somehow manages to lift its swelled haunches from the quagmire of obscurity and elevate itself to the status of a playable, if troubled, piece of work.

The story obviously centres round you as the hero of the plot. Unfortunately, while experimenting with hard dru... spells, you outstretched yourself just a little too much and subsequently, as you do in moments of great melodrama, split your personality and magical skills into six pieces.

These chunks of brain matter have somehow become lodged in six of the characters that can be found in the game. So, the title begins – find those six persons and mind melt with them to collect all your relevant marbles in one place, preferably inside your head.

Oh, and destroy the demon/witch/dark one/demon lord called Omgra who was accidentally released into the environment when you had the breakdown all those years ago.

The action is viewed from above in true Ultima style as you guide your little figure round the shuddering play area of forests, lakes, swamps, towns, houses and abbeys. Along your travels, you meet various characters, ranging from the king to a cooper and everything in between.

All conversations consist of asking their name and job and that's about it – the parser is about as friendly as Rab C Nesbitt on an alcoholic binge.

Objects can be picked up and spells cast more and more frequently as you move up the levels after finding a piece of your sanity. This review may sound rather scathing in places but my heart warms gently to this title.

There's something addictive and interesting about the story and the quest, the play area is large and quite varied and it's fun trying to see it all is a challenge.

Don't be put off by the looks – they kind of grow on you anyway, even though the sound effects never will. For Ultima fans, this is a worthy if scruffy rough diamond waiting to be plucked out of the pages of a PD catalogue. Strangely recommended.

Melt, mold and masticate your way through the adventurous Mindmelt

Attention all PD libraries

If you wish to feature in *Atari ST User*, just send ony af yaur titles which yau feel worthy of review ta: Public Sectar, Atari ST User, Europress Publicotions, Eurapa Hause, Adlington Park, Mocclesfield SK10 4NP.

Please include a list of the contents of each disk detailing the program name/s and what they are. This ensures quick assessment and inclusian in the magozine. If you are a shareware authar, send in your latest creation along with a list of libraries who will be distributing yaur progrom/s thereby achieving maximum publicity.

Laborant Professional

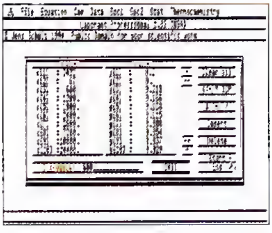
Programmed by: Jean Schulz

Available from: Goodman International
Disk No. GD2299

Arrhenius equations, polynom interpolation, linear regression, Barlett tests and intrinsic values of symmetric matrices. If any of those phrases ring a bell, whets your mental appetite or makes you nod in a knowing and knowledgeable kind of way, then the Laborant Professional could be your ideal partner in the lab.

The program contains a collection of scientific activities that help data analysis and, while I am in no position to claim world renowned success in the scientific field of chemistry, the various chapters and facilities available have impressed this young writer indeed.

There are several sections on offer, with comprehensive instructions to boot for a change. These include reaction kinetics, data processing for the likes of error determination and many, many more options.

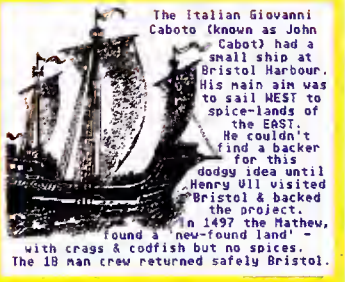


Experts needed to understand the terminology found in Laborant Professional

The title can also be used in other areas of scientific research such as biology, physics and mechanical engineering. Apparently, many PC users own an Atari for the program because there is no equivalent for their machines in the PC PD scene.

There's life in the old ST yet.

With all this going for Laborant Professional, all chemists and otherwise should investigate this title more closely. Recommended.



The historical series continues in this, the fourth installment of Picts To Parliament

From Pict To Parliament Part 4

Programmed by: Evelyn Mills

Available from: Goodman International
Disk No. GD2293

The historic flyby trip continues in the fourth installment of Evelyn Mills' epic retracing of Britain's past, detailing the periods beginning with the Elizabethan era and ending up at the Jacobean period.

Presented in a text format with accompanying cartoon-like graphics, the various major events of that time are briefly covered in an easy-to-read style.

As far as being a useful educational tool goes this isn't in enough depth, but for a quick refresher course in your country's origins, this is an adequate, if unremarkable, piece of work with clear instructions.

ST Globe

Programmed by: JP Cazes

Available from: Goodman International
Disk No. GD2283

The world's a big place when you're sitting in the second-to-back row of a classroom, wondering what the geography teacher is warbling on about.

Maps, text books and a droning monosyllabic voice reeling off turgid fact after turgid fact about a subject that has the potential to be one of the most interesting and fascinating on a school's syllabus.

Unlike the Interesting Mathematics Manual, ST Globe could prove a successful attempt at enticing teenagers into the act of computerised education.

The program, recently translated from its home tongue of French, is a menu-driven database covering many details of the planet's geography.

Available to the user are several options – maps, databases and questions. The maps are split into categories offering the earth's geography, human and economic breakdowns and an atlas.

Click on the earth option to take a closer look at America and you're presented with a labelled map of the States with its border lines and state names.

ST Globe also offers the opportunity to see which countries are part of which organisations, such as NATO, in an illustrated, shaded-where-appropriate map of the world. Old colonies can be flicked up and many other features which help educate the student about the past and present of the planet.

In the Database section, information on population sizes and surface areas of a particular country can be checked and compared with others. It's also possible to find out which country uses which currency.

Once all the facts and figures have been soaked up, it's time to move onto the questionnaire section where the budding geographer is asked to select the right answer from a multiple choice test. Questions cover selecting the right capital for a particular country and vice-versa.

While ST Globe is by no means as comprehensive or fact-filled as the Interesting Mathematics Manual, it has a far more professional, slick and appealing system to use and therefore may well be more useful in the long term, simply because it holds the user's attention for much longer. Recommended.

Find out answers for all your worldly questions in ST Globe

Bezerk & Starburst

Programmed by: Various

Available from: Goodman International
Disk No. GD2282

He's done it again. Not content with providing us mere gameplayers with a compilation of excellent golden oldie games in the shape of Donkey Kong, Centipede and many others, the master of conversions – Dave Munsie – has now brought the eons-old title, Bezerk to the small screen.

For those uninitiated in the ancient art of nostalgia, Bezerk was another one of those classics that ate ten pences at the rate of one every 60 seconds.

All the player had to do was run round a series of single screen mazes, blasting the different coloured robots and leaving the room before the bouncing smiley face of the evil robot empire made an appearance, with the sole intent of jumping up and down on you to death.

Not exactly taxing gameplay in theory but a difficult and sometimes frustrating challenge in practice. The good news is that this is a visually and aurally perfect rendition of the arcane blaster that launched the overhead shoot-'em-up.

The ridiculously robotised voice of the unseen arch enemy blares out from the speakers, proclaiming you a coward if you make straight for the exit without destroying all the robots, or telling the mechanised foe on screen to maim you.

The downside (why does there always have to be one?) is every time the crackling voice speaks the action freezes, which can break up the play from time to time. The graphics may not be worth writing home about but, at the end of the day, it really doesn't matter. Also included on the disk is Starburst by Chris Skellern, a slightly more original title that looks, at first glance, like a clone of Scramble.

Get the baddies and avoid the bouncing acid head in Bezerk

The flick screen, sideways blast-'em-up revolves round a power-hungry super computer. You must guide your ship over the surface and interior of the planet, blowing up the enemy craft and installations that include six key energy towers that run the aforementioned machine. Lasers can be fired in three different directions to help take care of even the most hard-to-reach foe.

You only have one life at your disposal, so a watchful eye must be kept on the energy bar to make it through to the end. One of the best features are the highly impressive explosions that accompany every direct hit. The title is repetitive after a while and one gets the feeling that it won't take that long to complete, but coupled with Bezerk the disk is well worth ordering. Recommended.

Cloze-In Etc.

Programmed by: Various

Available from: Floppyshop
Disk No. EDU 4S8SC

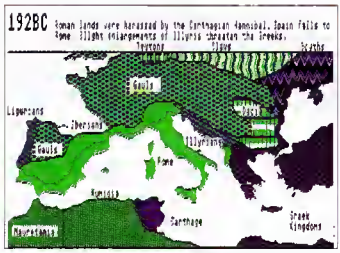
Education seems to be the predominant theme of this month's reviews and Cloze-In continues the trend. Featuring four programs of varying subjects and topics, the package takes the user from the delights of the Roman Empire and their murderous conquest to a German vocab test.

Cloze-In itself is an aid for teachers where sentences can be created with missing words. It's then up to the student to type in the correct word in the gap.

Swiftly following up behind is an Interpreter program – an English-to-French translator which allows the user to take a text file and load it in to the utility.

Once done, simply tell the program to turn it into the foreign tongue. After a few minutes of watching a bar make its way slowly across the screen as the ST word crunches the document, you'll be able to have a read of the results as soon as they are complete.

After conquering the French language, it's time to take a look at how the Romans nearly took hold of Europe in a brief history of their invasion. Presented via a series of maps with a music score, their conquest for power, glory and orgies is adequately explained.



A variety of useful educational programs are available for learned punters

Finally, Vokotrain is a simple but highly effective English-to-German and vice versa word tester. All the user needs to do is type in the appropriate translation and the computer will reveal if you are correct or not. Clues can be asked for but are logged, so don't think you can cheat.

Cloze-In Etc is an effective, if rather unremarkable disk, which is more useful than fun.

Lay your hands on me...

The Floppyshop
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Aberdeen
AB9 8SJ
Tel: 0224 312756

Goodman International
16 Conrad Close
Meir Hay Close Longton
Stoke On Trent ST3 1SW
Tel: 0782 335650

New Age PDL
PO Box 30
Leigh-On-Sea
SS9 4AD

Sound CD

Andrew Wright turns his CD-ROM drive into a hi-fi with Audio CD Master

Despite the CD-ROM revolution being well under way, the price of Atari-compatible SCSI drives can be hard to justify, particularly when the amount of Atari-specific CD titles is taken into account. But when you can plug the drive into your hi-fi and use it as an audio CD player, it becomes a lot more useful.

Many Atari-compatible CD-ROM drives such as the Toshiba 4101 and the Apple PowerCD can double as standalone CD players. The PowerCD automatically recognises an audio disc while the Toshiba only needs a simple dip switch changed. All you need to do is add a pair of active speakers like the ones sold for use with portable stereos.

Unfortunately not all drives are so obliging, especially older ones, and they need to be told to play audio discs using standard SCSI commands. This is where Audio CD Master 3.0 comes in. This small utility program with an interface modelled on a standard audio CD player sends the correct commands, such as pause, play and eject, directly to the drive itself.

CD-ROM and CD audio discs are constructed in much the same way. Data is stored in a spiral pattern as a series of holes (pits) and ridges (lands) in the disc's plastic surface. This combination of pits and lands represents binary encoding, making it possible to store either computer software or digital audio tracks. It's even possible to have both on one CD disc.

Audio CD Master is being distributed by It's All Relative, the US developers who have been at the forefront of Atari CD technology. It comes on a single floppy disk with a brief printed manual running to ten pages. Installation is simply a matter of copying the programs to your hard drive or your boot disk on floppy-only systems.

CD Master runs either as a standalone program or as a desk accessory. The desk accessory gives you instant access to features such as stop, play and pause from inside other programs, enabling audio CDs to be played while you're running other programs. There's no multitasking overhead either; once the CD player is started up, it keeps playing until you stop it.

Most SCSI-2-compatible drives should be supported although the only ones mentioned in the manual are the NEC range and the Sony CDU541. A number of makers use the Sony mechanism as the basis for their drives including Apple and Cumana and we successfully tested CD Master on the Apple PowerCD and CD300 drives.

Owners of older non-SCSI-2 drives may have to do some tweaking to get the drive working properly which may involve creating a *.DAT file containing the appropriate commands. The manual covers this in adequate depth.

OPTIONS

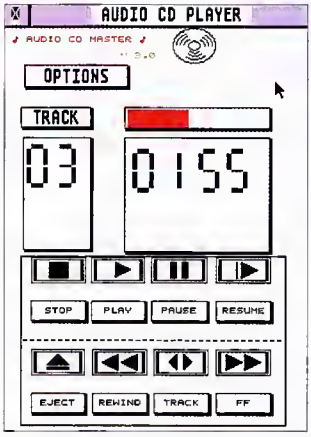
No other drivers are needed to play audio CDs but if you want to use your drive for both data and audio in the same session, Extendos requires you to boot with a data CD in the drive.

When first run, CD Master asks you for the SCSI device number of your CD-ROM drive and then moves to the main screen where you can select the appropriate option, including stop, play, pause, resume, eject, rewind, fast forward and track. The track command takes you to another screen where you can opt to program up to eight tracks in any order you like, play a consecutive series defining the start and end track numbers or ask for a random sequence chosen by the program.

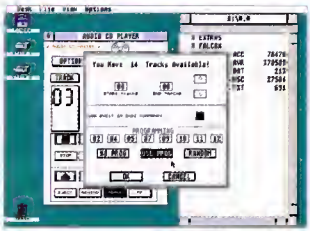
Other features include a display of the current track and how long it has played, a mute button for direct recording from the CD to a Falcon's hard drive using a suitable cable and volume.

The program disk contains a few other bits and bobs, including RSC files for other resolutions such as ST low and an amusing alternative to the README file, an AVR format sound sample called a HEARME file which gives instructions on getting started!

CD Master is a basic utility that does its job well. There could be more bells and whistles, such as track length, but a free upgrade to version 3.1 is in the wings which should have cataloguing facilities so you can select your favourite tracks quickly and easily. It's All Relative is a friendly, approachable company that offers an efficient service despite the distance involved, and UK users should have no qualms about ordering from them.



The main dialogue – note the CD player style


Programming CD Master on the Falcon

CD Master – the first audio CD utility

BOTTOM LINE

FEATURES
All you need to turn your drive into a CD player
Excellent / Good / **Average** / Bad / Appalling

EASE OF USE
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Advice

Corrupted disk calamity

I write in desperation with regard to my STE problem. Ever since I obtained a second disk drive about a year ago, I ran into problems with corrupted disk directories. After several such problems over a short space of time, contacted Atari and they said the problem was the disk drive.

I duly returned the drive, explaining the fault, and the suppliers could not see why it should be the problem but replaced the drive with another make.

It was while reading a back issue of an Atari magazine that I discovered that the problem appeared to rest in the Atari itself – something to do with the way it re-writes the directory back to the disk. It was also suggested that a piece of PD software would fix the problem, which I have been running for some time without any trouble.

Well you guessed it, it's happened again, although this time the majority of the data was backed up. On investigating further, I discover that Harlekin, which was on your cover disk, requires the memory used by the PD program I was using, and obviously overwrote it, thus removing the protection.

Can you possibly explain why the Atari exhibits this fault, and what can be done about it permanently?

D. Sandford, Finham, Coventry

We're sorry to heor obout your disk corruption. Progroms do occosionolly conflict with eoch other, ond while being o very useful utility, Horlekin is not olwoys too polite in the woy it interocts with other progroms in the system.

The difficult thing obout your problem is thot neither the Atori nor the disk drive ore technicolly ot foult, they ore just incompotible in one smoll woy. When you write o file bock to o disk, the computer olso writes other vitol informotion, such os the directory ond the file ollocotion toble. It keeps this informotion in memory, ond refreshes its copy every time you chonge o disk.

However, problems con occur if the Atori hos not spotted the foct thot o disk hos been chonged, ond ossumes it is sofe to write its internol copy of the directory bock to the disk. This hos the effect of scrombling the directory which previously existed on thot disk, with disostrous consequences.

When designing the ST, Atori decided to use the disk drive's write-protect focility to detect disk chonges. If you think obout it, every time you insert or remove o disk, the sensor which looks through the disk's write-protect hole must flosh briefly on ond off os the plostic housing of the disk posses in front of the detector beom. So, if the write-protect line ever chonges stote, the ST knows it must re-read the directory informotion before proceeding.

The problem is thot not oll disk drive mechonisms keep their write-protect lines enobled when o disk is being removed. Some just let it remoin in the current stote, indicoting to the Atori thot no disk chonge hos token ploce. When you then try to write doto to the new disk, on incorrect directory is written ond the disk is corrupted.

I'm sure thot the disk mechonism originolly intended for your externol drive worked just os Atori expected, but since thot time the monufocturers hove probobly sourced their mechonisms from new suppliers, ond not oll of these new mechonisms keep the write-protect line permonently octive.

So the reol onswer is thot olthough oll three components (the Atori, the disk drive housing, ond the disk mechonism itself) oll work correctly, they don't work correctly together. If onything, I would be tempted to loy the blome with the externol drive monufocturers. It is their responsibility to check thot whichever type of mechonism they ore putting into their coses is fully compotible with the mochine for which it is intended.

Auto-booting blues

Please would you tell me how to make the boot sector of a floppy diskette automatically load a Neochrome picture and display it while the program in the AUTO folder loads. I can write an assembly routine to do this (load and display a picture), but I do not know how to auto boot my program. I would like to run it from the boot sector so that it loads almost instantly.

Martin Cubitt, Rayleigh, Essex

To be honest, your life would be very much simpler if you put your picture looder progrom into the AUTO folder before ony other progroms. Since it will hove to spend o little time looding the picture doto from disk onywoy, is thot extro second or two before the AUTO folder is occessed reolly thot significont?

If you still wish to lood o progrom vio the boot sector, the principle is simple enough. First formot the floppy disk, but don't write ony files to it yet. Then use o sector editor to ploce your mochine code progrom into the boot sector, storting ot byte 30 ($1E).

Then chonge bytes 0 ond 1 to contoin o BRA.S instruction to jump to your code (which should finish with on RTS instruction to return control to TOS ofterwords).

Finolly, the lost word in the sector (ot byte 510) should be chonged to contoin o volue which will couse o WORD checksum of the entire boot sector to equol the mogic number of $1234. This is to prevent corrupted boot sectors from being executed.

There is olso o system routine designed to outoboot TOS from disk on eorly STs, which con use bytes 30 through to 57 of the boot sector to control the looding of o given file into memory. There's no reoson why thot shouldn't be used to lood your picture file directly into screen memory, but don't forget thot this would require o ploin screen-dump file, with no heoder doto or polette informotion. It would olso be resolution ond memory-size specific. Not exoctly modern device-independent progromming, eh?

There ore severol other considerotions to beor in mind. First, there is no outomotic relocotion of such mochine code progroms, so you must write it to be totolly position independent. Second, the system will not hove been initiolised ot this point (ofter oll, one purpose of o boot sector progrom is to lood the OS itself). This meons thot you won't be oble use nice high-level commonds to do the picture file hondling for you.

Finolly, don't forget thot some AUTO progroms moy overwrite the picture you hove so corefully looded onywoy!

Impossible TOS?

I recently decided to use the SYSINFO program on your October 1992 Cover disk to find out some technical information about my S20 STE. I got quite a surprise!

As far as I know, my S20 STE has TOS v1.62 installed, as I have only had the computer for a year and I have no boot up' bug like TOS v1.6. However, according to my copy of the program I have TOS v1.98, which is impossible!

Do you think the program is faulty, or is there something wrong with my computer? I have had no hardware or software problems at all.

Gary Bean, Banninghom, Norwich, Norfalk

Ah, this is on eosy one to onswer. The progrom is disploying the TOS sub-version informotion os decimol number 98, whereos it should octuolly be reod os o hexodecimol number. And the hexodecimol representotion of the number 98 is... you guessed it, $62. So I'm sorry, but you hoven't discovered o rore ond voluoble version of TOS ofter oll.

PC printer drivers

I recently bought a HPS00c printer, and with it was a disk of printer drivers for colour DOS applications, but they are on a disk for a PC and my Atari 1040 STE will not recognise the format.

I have tried to copy it with Fastcopy 3, but it

SERVICE

will not recognise it. Is there any way I can copy them onto a disk that will load on my Atari?

F. Poulson, Unsworth, Bury, Lancs

There are actually two problems confronting you. The first is reading the disk itself. This shouldn't normally be a problem, as all Atari computers are able to read PC format disks. However, it is possible that the disk in question is formatted in High Density mode, in which case a normal double-sided drive won't be able to read it. A PC dealer should be able to copy the files onto standard 720k floppies that your ST can read though.

However, even if you could read the disk, you have a much bigger problem. The data files and programs on the supplied disk will be designed to run on a PC-compatible computer. The ST is not such a machine, and thus the files on the disk will not be of any use to you. It would be rather like trying to run a petrol car on diesel fuel; the nozzle may fit in the tank, but the engine can't use the contents.

What you'll need to do is find appropriate driver software for your own ST programs. Same programs will have such drivers included on the master disk, others may require you to obtain a separate driver program, either from the manufacturers or perhaps from a PD library.

Your own software library

I currently own an Atari 520 STE with 4Mb of RAM, an Atari Megafile 30 hard disk drive, a Cumana external disk drive, and a colour printer and monitor. With all this hardware, you might have thought I would be using it for business? Well, no.

The reason I write is that I want to start a public domain software library, but how do I go about it? Where do I get the software from? Please help me on this.

Also, I would like to buy a modem, but which is the best buy and which software should I use? My budget is £200.

J. Fenton, Longden on Tern, Wellington, Telford

Setting up a good public domain software library is not a task to be undertaken lightly. Although the software itself is PD, there are a variety of other costs to consider such as advertising, postage & package, handling faulty disks, sourcing new product, and so on. If you contact our advertising department on 0625 878888 they will be able to give you the current advertising rates and discuss your needs.

Another consideration is the legal ramifications. You will have to be very careful not to distribute any disks which contain copyright, or otherwise illegal, material – and that includes the sampled audio and digitised pictures so often found in demos. Oh, and you are going to declare all this income to the nice man from the Inland Revenue, aren't you?

The software itself is available from a variety of sources, but perhaps your own suggestion of buying a modem is the most effective. There are many programmers around the world busy creating PD software and demos, most of which are distributed via bulletin boards and the massive global Internet.

The simplest way to gain access to the Internet is via dial-up services such as Demon Internet Services or CIX. Demon can give you a direct connection to the net for a flat rate of £11.75 per month. CIX offers much more in terms of local conferencing and file storage, but they do charge per minute of connection time. Their monthly minimum is half the Demon monthly fee, but it's all too easy to exceed that minimum!

You would do best to get a fast modem, and for the price range you have outlined, we suggest something like the USR Sportster, which can be picked up for under £200 if you shop around. This is a V.32bis/V.42bis modem (or, in layman's terms, pretty damn fast!) which should allow you to download even quite large files without incurring huge telephone bills. As for communications software, try something like the German shareware program CoNnect, or even the simple PD package DTerm to get you going. And where can you find these programs? Well, you could try a PD Library...

Directory doldrums

I am attempting to write an assembly program in which I want to re-set my path name to the main directory on my floppy disk drive after having read from a subdirectory.

I have been successful in defining a subdirectory as the path using GEMDOS function $3B, but how do I then re-set the path back to the main directory, or go back to the previous level when the subdirectory is within another subdirectory?

David Ness, Gowsworth, Macclesfield

Why is everyone suddenly writing in machine code? Ah well, c'est la vie. The answer is, annoyingly enough, storing you in the face.

The GEMDOS dsetpath ($3B) command which you mention can change the current working directory to any level you require. If the string you pass to it is just a simple folder name, that folder will be made the current subdirectory. However, if you specify a full path rather than a relative one, you can set the current directory to anywhere you like. For example: DOCS would switch to a subdirectory called DOCS, \PROGRAMS would switch to a directory called PROGRAMS in the root directory \PROGRAMS\DOCS would switch to a directory DOCS, which is inside another called PROGRAMS in the root directory and \ would switch straight to the root directory itself

It is a relatively trivial task to 'walk' up and down the current directory string to determine the absolute path you require. You will need to use the GEMDOS dgetpath ($47) command before you do any of the above in order to fetch the system's current working path. You can then add to or subtract from that path at will.

Oh, and you shouldn't really use drive specifiers (e.g. A:, B:) in the dsetpath command, as some versions of TOS don't like this.

Instead, if you want to change drives, first use the dsetdrv ($E) command to change to the new drive (using parameters 0 for A:, 1 for B:, 2 for C: and so on). Then read the new default directory with dgetpath and carry on as before.

Got a problem?

Are you at the point of taking an axe to your ST? Do you want to pulverise your printer? Well just count to ten and relax. Then, jot down the problems you are having, along with a detailed description of your setup.

Include information on the type of ST you have, the TOS version (if known), what peripherals are attached and any extra hardware that lurks inside your computer (accelerators, graphics cards and so on) and I'll do my very best to come up with a solution.

For those who have had problems and overcome them, chances are that someone somewhere is having the same problems and would benefit from your advice.

So get in print and send any tips or suggestions that other users may find helpful to: André Willey, Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

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August 1994

ST ACTION

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- ISHAR 3
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The JAGUAR has landed

The first batch of "official" software for Atari's super console reviewed inside

Tempest 2000

Many years ago, a game appeared that wowed its audiences and gripped the player. Fifteen years on and it's set to do the same again. Adam Phillips explains why

1981: Tempest, the original, arcade-based version, was released and scooped in players' cash at lightning speed. Far its time, the game was state of the art.

1994: With the appearance af Atari's Jaguar, you might have thought that the machine's first few releases would have boasted incredible graphics and hitherto unseen attention grabbers to show off the 64-bit technology.

Sadly it hasn't happened yet – Cybermorph was a good game but still lacked the je-ne-sais-quai that the "next generation" hype has been waffling on about and promising us for the last few months. Instead, we have the likes af Tempest 2000.

As a revamped, refitted and refurbished blast fest from action maestro Jeff Minter, this is indeed a rather special game. But it still ain't 64 bit. Cast aside any preconceptions you may have that you're just going to have to wait until Aliens versus Predator appears before you can loudly boast that the £249.99 you spent on the next generation in consoles was indeed worth the investment; Tempest may not look like a 3D techy anorak's wet chip but it has some of the sweetest gameplay this side of the 21st century.

One thing that you can guarantee with a Minter title is the most important element in any "interactive entertainment" – gameplay. The makers af all those creaking, cantankerous, slothful multimedia "classics" should really take a look at Tempest 2000 and see how that much-talked-about but rarely seen concept af gameplay is done.

First rule of thumb – keep it simple. Don't try and impair the player's enthusiasm by throwing in heaps upon heaps af unnecessary extras and gaming waffle to

With four different versions to choose from, it'll be some time before you become bored with Llamasoft's latest

Ride the rim and blast the aliens as they race up the tube

Glide through the circles to pick up bonuses – move up through the clouds to the topside for more of the same

try and this how limp and fetid the gameplay is. It doesn't work in films so how do these "cinematic games" expect to get away with it? And which title shows off this all-essential rule to a near fine art? Take a look at Tempest 2000.

OK the game design is hardly original but few games released over the last few years have been – it seems that it's not what you do, it's how you do it. And that guru of gaming has pulled together an ancient concept and added enough twist and turn to make you feel as if you're playing a totally new game.

All the player need do, in theory at least, is sit at the top of various differently shaped tubes and blow the living daylights out of the enemy, approaching at a frenetic rate from the bottom. If they make it to the top, there's a very good chance they'll drag your craft down to where they came from.

Now add a large variety of differing aliens each with their own specific attack plan. Some shift between the lanes that make up the tube, others lay down spikes at the bottom and continually move up and down unleashing a large amount of projectiles in your general direction.

Mix in power-ups that include better weapons, AI droids to help you in your alien genocide and a jump option to leap away from the rim to shoot any critters that managed to make their way to the top unhindered.

Also available are "out of here" power-ups that move the player swiftly on to the next level and, finally, the warp bonus token - collect three of these and it's on to the special stages to collect some serious points and extra lives.

None of the above may sound particularly new or different but once you are thrown into the thick of the action, it really doesn't matter. The speed and energy of the gameplay is high and addictive. Put it this way, it holds your attention for hourly sessions at a time.

Not content with providing us with a single updated version, Minter has also included the original, enhanced and a dual version where a friend can join in the action and take you on in a head-to-head battle of galactic proportions. The bonus warp levels deserve a special mention. After the furious destruction, earning enough brownie points moves you into a warp zone. Loosely translated, this means you are in one of three very mellow and relaxing sub-games where substantial amounts of points and lives can be picked up.

The first bonus section consists of flying through circles with your crosshairs. It may sound a little bland but the presentation coupled with the excellent sound release and prepares you for the next wave of impending fury.

The second section is, well, just psychedelic – this is a Jeff Minter game after all. Guide a set of swirling footprints down a rotating and curving green path to collect

bonuses and more. Very druggy.

With a hundred levels to plough through and a further "beastly" mode to negotiate, where things get really tough, Tempest 2000 has plenty an offer for the cynical and tired gamester.

Flicking your eyes over the screenshots may well result in a feeling of disappointment at the rather simple looking graphics. Like the gameplay though, simplicity is their main strength – any more detailed and the screen would become unbearably cluttered.

Explosions, bonus messages and animations zoom up the screen towards you, sometimes blocking a clear view of the action but at the end of the day this doesn't detract from the game, it adds to the excitement. You feel like you're doing some serious damage.

Sound consists of some of the best in-game techno-rave I've heard on any console or computer and sound effects include bangs, explosions and plenty of bizarre Minter-ish sound bite oddities especially in the warp levels.

So much attention to detail has been fed into the programming of Tempest 2000 that it's even possible to adjust the sound and music volume seperately to balance that hardcore dance floor yaw with the multiple eruptions of alien craft (and your own).

Those of you worried that you'll have to keep on returning to the beginning each time a game ends, don't worry because the cartridge contains a save facility. Once you have completed a certain number of levels and you're unfortunately killed off, it's possible to rejoin the action from where you died (minus the substantial score).

Tempest 2000 is not out to push forward the originality envelope; leave that to Bullfrog. Its one and only purpose is to entertain; not to drown itself in its own regurgitated hype; not to slap itself on the back for a marketing con well done – it is a simple, effective and highly addictive blast from the past and thrust into the future via the skilled talents of its programmer.

There is one problem though – nothing to do with the game itself mind you, but a niggle large enough to make me hesitate in giving it my blessing. Tempest 2000 costs £50 and, while being a highly superior title, no game is worth that kind of money.

If you're wallet-heavy and game-starved then there shouldn't be a real problem but if you're a gameless, cash-starved owner of Atari's beast then you'll have to hold your anger, take the plunge and, in the meantime, wait for Atari's game pricing policy to come to life.

AI droids are highly useful for effective destruction powers

VISION ★★★★★★★★★★

AUDIO ★★★★★★★★★★

DIFFICULTY ★★★★★★★★★★

LASTABILITY ★★★★★★★★★★

93%

This is a challenging, addictive and highly individual title worthy of anyone's time and attention. Price-wise though, you're left wondering what happened to Atari's proposals. Weren't the carts supposed to cost £30 – 40?

Publisher ➤ Atari
Developer ➤ Llamasoft
Price ➤ £50

Raiden

A classic arcade blaster makes its 64-bit debut on Atari's Jaguar. Saddle up in your space-craft, blast wave after wave of alien nastiness, save the world and be back home in time for tea and cakes

Four out of the six official Jaguar releases that STA received this month were shoot-'em-ups – a worrying trend and one which, hopefully, will not last. I saw Imagitec's Raiden a long, long time ago at one of the European Computer Trade Shows, not an Atari's Jaguar, but on one of the other consoles whose name I've completely forgotten.

The game, it has to be said, looked rather good. It had the image of an old classic arcade blaster and that appealed to me in a big way. Surprisingly enough, I found out later that it actually is a classic arcade blaster!

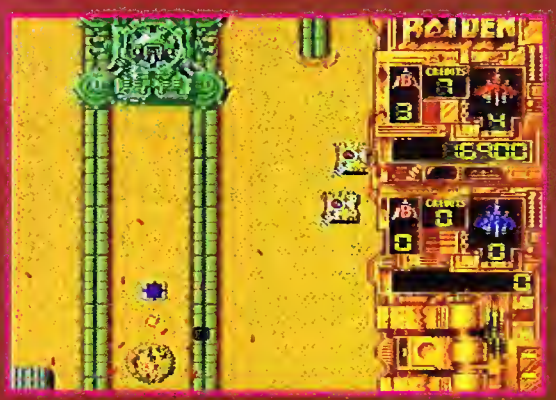
Raiden has now decided to put in an appearance on the Jaguar and it's my duty to cast a pair of reviewing eyes over it.

The story behind the shoot-'em-up is just about as bog-standard as you can get. Mother Earth has fallen under siege from militant aliens and just because you happen to be a pilot of the Raiden Supersonic Attack Fighter, it's up to you to save the planet. Not very interesting, but there you go.

The start of your quest to save the world and already there is a power-up in sight, but watch out for those tanks

The 64-bit Jaguar machine uses the latest up-to-date technology to give its software same of the best graphics and sound the gaming world has ever seen, so could someone please tell me why Raiden is so god-damn average and uninteresting? You will never meet a mare bog-standard shoot-'em-up in your whole life.

I know what software is in store for the Jaguar and games like Alien Vs Predator and Chequered Flag 2 are going to be really exciting and will, hopefully, set the gaming world alight. So why Atari have allowed Raiden to sit on a shop shelf is beyond me! The actual game is not too bad and if I saw it on something like the Amiga then I would probably like it a lot, but this is on a piece of hardware four times more powerful than Commodore's 16-bit machine and I expected a hell of a lot mare from Raiden.



This is what happens when you die and it's all because I was too greedy and went for that power-up

The graphics are basic, to say the very least, and for some bizarre reason the score-panel is almost as big as the actual playing area. What a waste! There are some nice touches though, especially some of the parallax effects, it's just a shame there aren't a few more of them.

Raiden can be played on your own or with a friend, but whichever option you choose I guarantee that you will find it extremely tough. You can enhance your spacecraft's weapons by picking up power-ups, but if get hit you lose the enhancement.

If you've picked up two or more power-ups and you get hit, you instantly lose one while the others fly around the screen. Try to regain them and you always seem to bump into another ship or get blasted to death.

The sound isn't too bad, but compared to the tunes found in Tempest 2000, Raiden just doesn't compete. The sound effects are bog-standard arcade noises and nothing more

Apart from the difficulty level being set too high, Raiden plays rather well. Controlling your space-craft via the joy-pad is very easy, probably because there aren't as many buttons to press unlike Trevor McFur in the Crescent Galaxy (reviewed this issue).

It's always a good idea to use your smart-bombs. Remember don't get even, get angry

An end-of-level guardian which looks like a floating tank. It's got big guns, it's very scary and I guarantee you will lose loads of lives trying to kill it

Raiden is just so uninteresting that there isn't that much more about the game I can or want to tell you! I hope that people don't get the wrong idea about the Jaguar due to Raiden's inadequate performance.

Like I said before, Raiden wouldn't be a bad game on any other lower-grade system, but this is the Jaguar, currently the world's most powerful console and its games should be blowing peoples' minds.

If this was the late 80s people would probably buy Raiden in their droves and I could excuse it. This is the 90s though and games are bigger, better, sexier and more popular than ever before and a game that looks ten years old is not what gamesplayers are looking for. Jaguar owners should class Raiden as a mistake and look for another piece of software that's actually worth buying.

Jonathan Maddock

VISION ★★★★★★★★★★

AUDIO ★★★★★★★★★★

DIFFICULTY ★★★★★★★★★★

LASTABILITY ★★★★★★★★★★

Raiden would delight gamesplayers with its graphics, sound and playability if this was 1987, but unfortunately it's 1994 and people expect a lot more. If I wanted a piece of classic nostalgia I would've dug my Spectrum and its games out from the loft.

40%

Publisher ➤ Atari
Developer ➤ Imagitec
Price ➤ £39.99

Blood, guts and football mayhem. Tina Hackett plays dirty and investigates the gore fest of the future

Brutal Sports Football

ACTION GOLD

Appearing across many formats, this game will already be familiar to many. And now for all owners of the Jaguar you can experience one of the most frantic, and most violent sports games of all time.

The game is based around a futuristic sports event. The year is 2043 and the Universal Football League is dwindling due to audience boredom. And so Brutal Sports is born, partly because of a population control exercise but also for its entertainment value.

Played initially by humans, two teams soon become dominant: The Brain Dead Bazookas and the National Nukers. But the match between these teams has dire consequences. The National Nukers have not earned their name for nothing y'know and within 30 seconds they nuke the whole land.

Fortunately – or not as the case may be – there is a Professor by the name of I.M. Looney on hand, and true to his name he genetically engineers some mutated bi-peds who prove to be excellent players of the game. And the new league gets going once again.

So that's the basic history but how do you actually play the game, I hear you ask? Well, quite simply, it revolves around the game of American Football – if rather roughly. But apart from getting to show off your kicking, running and tackling skills, you also get to mash your opponents to bits!

Basically there are no rules so you can do almost anything you want to the opposition – I said almost! What you can do includes splitting them in two with an axe, or dropping a bomb perhaps, whatever grisly manner takes your fancy really. Chop other players' heads off if you feel like it, then lob them around the pitch. Good, clean fun, hey kids?

There's plenty more in there to keep things exciting. Power-ups are scattered around the pitch, everything from magic potions rendering your players invisible to rabbits speeding your players up. These are major contributors to your players' performance on the pitch.

In two-player mode you can be really sneaky and use the direction reverse feature to confuse your opponent by reversing the directions on your opponent's joypad or the team swap mode to take control of the opponent's team.

But it's not all unadulterated blood and gore; it's a game with tactics 'n' all! You can instruct your team to get into formations and choose aggressive, standard or defensive to help the game along.

You'll have to play manager too and in the Locker room you can decide which players you wish to return to full match fitness and which ones to choose for the next match. To restore fitness, choose the cross icon which will cure flesh wounds or use the lightning icon to give a player increased speed. Success will bring financial rewards though but all treatments need cash so watch how you spend.

Choose from a number of matches. Try your skills in the League against four teams in a taxing six match season. For a quick kick about play an Unfriendly against the computer or an equally bloodthirsty friend. Knockout tournaments are available to really test your slaying abilities.

Each match lasts for seven minutes and you win by outscoring the other team or by slaughtering six of their seven players. A draw results in Sudden Death being played – and it means exactly that – with the ball taken away and the winner being the first to decapitate six opponents.

This is a superb game, action packed, fast, furious and very different.

Graphically, it really is the business and the chunky detailed sprites work well. The stadium is well drawn and you can see the area of play clearly.

The soundtrack goes with furious action brilliantly and the gory effects add to the feel of the game.

Buy it or hide behind your mam's apron forever!

TINA HACKETT

Unlike the computer versions of this game, Jaguar Brutal Sports is faster and smoother

First, choose your team. These guys look suitably 'ard, so I'll have them

Once into the game, headless bodies start to pile up and the pitch starts to get worn

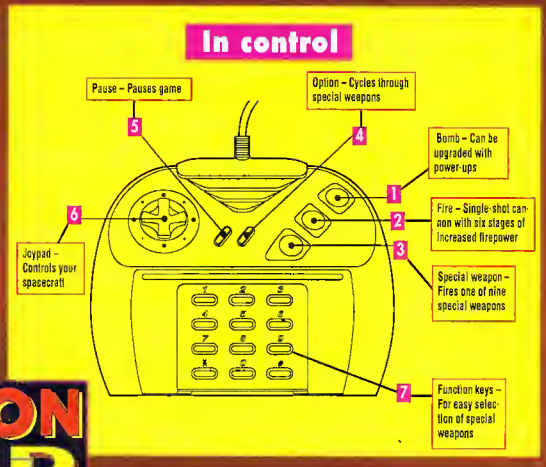
VISION	★★★★★★★★★☆
AUDIO	★★★★★★★★★☆
DIFFICULTY	★★★★★★★★☆☆
LASTABILITY	★★★★★★★★★☆

A fabulous mix of sports action and sheer beat-'em-up brutality. Looks great and plays like a dream.

90%

Publisher ➤ Telegames
Developer ➤ Teque
Price ➤ £54.99

The first end-of-level enemy and doesn't it look nice! That's 64-bit rendering technology for you...



ACTION GOLD

Trevor McFur in

Take off towards the five moons of the Crescent Galaxy. They're under attack from the evil Odd-It and only Trevor McFur – jaguar and an ace space pilot – can save the world now! Welcome to the wonderful world of the Jaguar

It's four times as powerful as the SNES and the Mega Drive, it's twice as powerful as the CD32, and it's just landed on British soil. Atori's console is the most eagerly awaited games machine ever. Like you, I've seen the previews and early screenshots and they've made me drool so much that I've invested in a bib!

The hardware has arrived, but what about the software? Although there are not a lot of titles out yet, at least there are some. When Commodore's dream machine the CD32 was released last year there was next to nothing available.

Of the handful of official Jaguar games, the one which I should be most concerned with at this moment in time is Trevor McFur in the Crescent Galaxy, mainly because that's what I'm meant to be reviewing!

Crescent Galaxy is a horizontally scrolling shoot-'em-up and you, as the title suggests, play the part of Trevor McFur. Trevor (and this is the clever bit) is a Jaguar. Not just a coincidence methinks.

Trevor is a corporal in the Crescent Galaxy Chapter of the Interplanetary Defence Squad, known as the Circle Reserves. The Galaxy has fallen into dire straits thanks to an evil entity known only as Odd-It. All the planets are under his rule and are severely guarded by his blockade. Trevor McFur is the Galaxy's last and only hope.

With his female feline partner Cutter (a Cheetah I think), Trevor sets co-ordinates for home and prepares for battle. You decide to split up, with Cutter taking the shuttle craft and sneaking through each moon's blockade to get help below while Trevor battles with the deadly armadas in the sky above.

McFur's ultimate objective is to destroy the planet Cosmolite, which is currently serving as Odd-It's main base of operations. It can only be penetrated by destroying the four moons (Osseous, Grottoneria, Zephyrio and Equilibriumite) that surround Cosmolite.

I won't beat around the bush; Crescent Galaxy is just a basic horizontally scrolling shoot-'em-up, but it has one distinct advantage. It utilises the 64-bit technology of the Jaguar. This means you get some absolutely gorgeous graphics that will blow your mind.

Looking at the screenshots on these pages doesn't really do Crescent Galaxy justice. The rendered sprites have to be seen in person to be fully appreciated.

But the pains where your jaw is really guaranteed to drop are when Trevor

This is a picture of Trevor McFur, the hero of the game, and the kind of cat you can rely on to save the Universe!

Yet another end-of-level beastie, but this time you've got Cutter to help you out

A quick jab of the special weapon button and Cutter, your feline lover comes to help you clear the screen of alien beasties

The end of the level and a winged beastie has decided to spoil your plans to become a hero

the Crescent Galaxy

bumps into the sub ond end-of-level guordians. These enemies practically fill half of the screen and they're just so sexy that words could never describe just how good they reolly are. I could enthuse obout the graphics for most of the magazine, but that could get really boring so I won't.

I can't knock Crescent Galaxy an the playability or addiction fronts either. The cantrals work very well ond became second nature after anly a cauple af ga's plus there is a furious sense af compulsian and the difficulty level is set just right so you'll always be lusting after "just one more go".

The only downer I can think of is the lack of o decent tune. The introductian music is plain awful, but luckily it doesn't ploy during the game and the saund effects are so good that you'll soon forget about this little problem.

The only other thing is thot when you toke away the 64-bit technology, all you are playing is just another bog-standard shoot-'em-up. This shauldn't concern you too much because it's one of the first shoot-'em-ups on the Jaguar and though it's fairly bog-standard, it is without a doubt one of the sexiest blasters you're ever going to get to grips with. The good thing is that from now on the software is just going to keep getting better and better.

JONATHAN MADDOCK

A gun-toting cherub with a mean pair of shades decides to take one of your lives away

One of the better special weapons is the beam which practically clears everything from your view

Fly me to the moon...

Look into the sky at night and I guarantee that even Patrick Moore wauldn't be able to see any of these moons. Here is the STA guide to the five levels found in Crescent Galaxy

Equilibriumite was formed by the union of two large asteroids and its surface resembles wet swampland. There are many deadly forms of life which inhabit the planet. Pillbugs, fireflies, skullbats, sadmasks and even the ferns are out to bring Trevor McFur's quest to an end

Ossaous is a bleak and dry moon. It is sealed by a layer of gaseous radiation, which makes for a spectacular sky full of colours. The dangerous mutations that inhabit the planet include Firebugs, Flying Rats, Skeletal Vultures and Scorpions

Grottoneria is a craggy moon with a network of caves and tunnels which are filled with natural minerals and ores. Odd-It controls the minds of the native creatures. Among these beasts are bats, slugs, cyber spiders and dino's plus natural causes such as falling stalactites to be avoided

Zephyria has no core. Instead the moon consists of colourful nebulaes, gaseous clouds and floating segments of rock, creating islands in the sky. New breeds of life such as spinners, hummingbirds, dragons and cyber cherubs have developed here and are unlike anything on any other moon

Cosmolite is a city planet which once represented the heralding achievements of the Crescent Galaxy. Now it has become a land of industrial chaos. You must battle Odd-It in his city-fortress, where he has accumulated massive armies. Enemies which you must do battle with include taxifish, eyeballs and starbots

VISION ★★★★★★★★★★

AUDIO ★★★★★★★★★★

DIFFICULTY ★★★★★★★★★★

LASTABILITY ★★★★★★★★★★

Crescent Galaxy, as a concept, doesn't excite because once you've seen one blaster you've seen them all, but this contains the best graphics I've seen in ages plus extremely high levels of playability and addiction. Sex in a cartridge!

90%

Publisher ➤ Atari
Developer ➤ Atari
Price ➤ £39.99

Whoever said Wolfenstein was too violent obviously was completely and utterly correct!

I've just killed twenty human beings, so why do I feel more guilty about shooting a harmless doggy

Wolfenstein

It's morally incorrect and features more violence than Scarface and Taxi Driver put together, so how come it's so much fun that I can hardly put my joypad down! Prepare yourselves!

It was a massive hit on the PC and now the world's most politically incorrect shoot-'em-up has exploded onto the Jaguar. Anyone with a weak stomach may as well turn the page now because Wolfenstein 3D is, without a shadow of a doubt, not a game for the faint hearted.

You play the role of William J. "B.J." Blazkowicz and it's your job to annihilate Der Fuehrer's elite commando team, assassinate the diabolical Dr. Shabbs, infiltrate Der Fuehrer's bunker and capture the German's secret war plans plus, while you're busy attempting to complete this task, kill anyone and anything that gets in your way.

REACTIONS

I don't know how people reacted to Wolfenstein when it first appeared on the PC because the game requires the complete and utter destruction of the Third Reich and this means that you have to kill loads of Nazis.

War games have been around since computers first came out and conflict against the Germans in these games has never been shied away from, but I don't think it's been done quite as blatant and as vicious as this before. Wolfenstein is littered with loads of Nazi imagery including pictures of Hitler and flags with swastikas adorning the walls.

This is 1994 and political correctness is becoming more and more important and I don't think a piece of software about killing Germans will go down too well with certain sections of society.

It's too late to change things now though, because Wolfenstein is here and judging by the reactions of PC games players and reviewers, it is one hell of a game or perhaps I should say a game from hell!

To put it simply and this is probably the best way I can describe it, imagine if Dungeon Master had sex with Gauntlet and Total Carnage while watching Reservoir Dogs, then its offspring would grow up to be Wolfenstein.

The actual idea behind the game is almost too basic to work, but work it does! Running around in a 3D dungeon killing anything that moves and generally causing havoc is the most fun I've had in a game in ages. The 30 or so levels are varied enough to keep even the most avid gamer happy for a good while.

There is a constant objective to each level, which is basically kill everything and find a lever. This must be flicked and in turn this leads to your next mission. Before you get to the level you must face loads of Nazis, all of whom are intent on killing you.

There are several different types of Nazis; some of them can take more hits and are armed with better weapons. Guard dogs patrol the various levels and later on in your quest you even get to face undead Nazis who have been brought back to life by a

Press "S" on the Jaguar controller and you'll get a map of the rooms you've already visited and you'll see where some of the secret passages are!

Pick up a medi-pack to replenish your health and while you're at it admire the nice picture of Adolf!

mad German scientist. There are six missions in all and at the end of each one is the level guardian who is invariably bigger and harder than his Nazi comrades.

These level guardians are quite unlike anything I've ever played against because not only are they tough as nails, they also chase after you making your life even harder! When this happens you do get that adrenaline rush and I have to hold up my hands and say it gets rather exciting!

You start off holding a measly pistol, but wander around the levels and you will find a cornucopia of weapons (including flame-throwers, chain guns and rocket launchers) that will turn you into a walking one-man war machine. Now I don't condone violence in any form, but each time I picked up a bigger, badder weapon I just had to grin.

OBJECTS

Apart from the weapons, there are plenty of other objects to be collected. You can refill you smoking gun with some ammo packs and picking up some of the Nazi's treasure will give you some health back. The most important

3D

objects to be picked up are the colour-coded keys. Without these you won't be able to finish your mission.

Kill or be killed should be the motto of the game and I guess that's all you need to know about Wolfenstein.

It is quite simply one of the best games I've played in ages. The graphics are so dreamy that they make me go a bit squiffy.

The 3D routines are brilliant and are much more defined and slightly smoother than the PC version. The sprites are beautifully drawn and the

The end-of-level guardian and I very much doubt he'll want to sit down and discuss this little dispute!

ACTION GOLD

stereotyped Nazis could have come straight out of a war story from Battle comic.

The control is very easy to use and after a while becomes second nature. The only grievance I have is that you tend to get slightly stuck in doorways, mainly because of the way the character moves and the way the joypad reacts to your feverish thumb pressing in the heat of the moment.

One of the nicest touches in Wolfenstein is the introduction of a save feature which automatically saves your quest as you progress. There is also the option for you to save your game at three different points within the game.

The sound is rather nifty with a superb array of different tunes and a selection of sound effects which add to the whole atmosphere of the game.

Wolfenstein may not be the world's best game for political correctness, but it

Flip the switch and you can progress to the 29 other levels of mass mayhem

beats the living daylights out of just about everything else for it's sheer addictiveness, playability and the fact that it's one of the most fun games you will ever play.

Wolfenstein roars across your TV screen like a demon sent from hell. I advise that you dial "666" now and order your copy from Beelzebub himself.

JONATHAN MADDOCK

VISION	★★★★★★★★★☆
AUDIO	★★★★★★★★★☆
DIFFICULTY	★★★★★★★☆☆☆
LASTABILITY	★★★★★★★★★☆

91%

With ingredients like top graphics, superb sound and dangerous levels of playability and addiction, you can't go wrong with Id Software's brilliant blaster. Wolfenstein is a Sunday roast with Yorkshire puddings, carrots, sausages and gravy while every other game on the planet is the equivalent to a Pot Noodle.

Publisher ➤ Atari
Developer ➤ Id Software
Price ➤ £39.99

With machine gun in hand and a sadistic grin on his face, our hero goes into a killing frenzy

This is what I call weaponry. Pick up the chain gun and transform yourself into a one-man killing machine

Cruiser £10.99

The Cruiser is rapidly becaming a firm favaurite with gamesplayers. There are two styles af Cruiser; one is all in black while its brother is perhaps the brightest joystick you cauld ever buy.

Pastel shades of green, yellow, blue and pink cover the joystick and though it might make the average games-player regurgitate his/her last meal, it certainly performs well.

This is down ta the unique three-way power control dial situated at the bottam of the shaft. This makes the shaft looser or stiffer and can be varied depending on the type of game you're playing. The stick and its buttons are fully micro-switched and respond well.

The body of the jaystick is slightly langer than most sticks and the fire buttons seem to be further away, but the Cruiser fits snugly into your hand and after a while you for-get it's ever there. A highly recommended buy and one of my favaurite "sticks" af all time.

	Power Play
Company:	
Appearance:	5
Response:	5
Feel:	4
Overall:	5

Stick it

One of the most essential pieces of hardware for a dedicated gamesplayer is a decent joystick. The ST Action team get to grips with the best joysticks available for the ST

Zipstik £14.99

The Zipstik is the top selling UK-manufactured joystick. Just about everyone I knaw has gat one and that's simply because it handles like a dream. No matter what type of game you're playing, the Zipstik puts in a startling performance. Whether it be a shoot-'em-up or a flight simulator, the Zipstik is guaranteed to serve you well.

OK, so it might not look like the world's best, with its rather drab black and yellow colours, but it responds well and fits perfectly into your game mitts. It's fully micro-switched and has a robust steel shaft so it's not likely to break too easily.

If you're going to get a joystick then I recommend you take a laak at this ane before you make a decision on your purchase. A good all-rounder which won't let yau dawn... ever.

	Power Play
Company:	
Appearance:	4
Response:	4
Feel:	3
Overall:	4

Where to buy

Although the joysticks in this feature are from various manufacturers, all of them can be obtained from Power Play who can be contacted on 0457 876705. The anly exceptian is the Cheetah Mach 1 which can be found in almast any good computer stockist, as can all the others.

Competition Pro Extra £13.99/£16.99

The first thing that strikes you about the Pro 5000 is how solid and stur-dy it feels. It has a rather short handle with the two fire buttons located an the thick rubber base.

On a game like Road Rash it was nat too respansive, making you push it rather fiercely in the desired direction. But far the beat-'em-ups it proved excellent, letting you carry aut the moves mare precisely.

Alsa available from the Competition Pro Series is the Competitian Pro Extra. This is a transparent version of the Pro 5000, normally coloured the standard black and red.

The Pra Extra contains the additional feature of an auta-fire button giving mega-blast rapid fire, short rapid burst or single shot.

	Power Play
Company:	
Appearance:	4
Response:	4
Feel:	3
Overall:	4

The two large fire buttons provide ease of use for both right and left hand operation. For people with smaller hands though, it becomes quite a strain to keep your thumb stretched onto the stick.

Both joysticks are good all-rounders that promise durability

to 'em

£13.99 Cruiser Turbo

Similar to its cousins the Cruiser Multi-Colour and the Cruiser Black, the Cruiser Turbo has one distinct advantage and that is the turbo/rapid auto-fire optian.

This little beast is only really useful when playing shoot-'em-ups for that little bit of extra and faster fire-power. But for this type of game it really is a god-send.

The Cruiser Turbo is very comfy, fits in the hand nicely and responds very well, thanks to its ever-so-useful eight-way micro-switches. The Cruiser Turbo also has the ever-so-useful three-way variable tension control.

Apart from the auto-fire option, this Cruiser isn't much different fram its counterparts, but if fost fancy firing is your "thang" then I guess this is the jaystick of your dreams – but bear in mind that it does cost you a little more.

Company:	Power Play
Appearance:	4
Response:	5
Feel:	4
Overall:	4

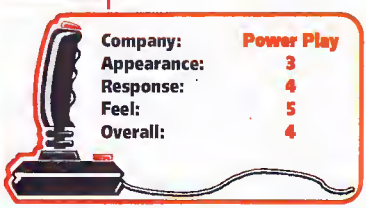
Speed King £10.99

Like the Navigator, the Speed King has its joystick shaft positianed directly on top of its main body. This style of joystick might not ga down too well with the computer purist, but I think you'll be more than happy with its overall performance.

The Speed King is ergonomically designed to fit snugly in your hands. It's fully micro-switched and thus responds well ta your jaystick movements. The fire button is ideally situated on the side of the joystick body and can easily be accessed whenever required.

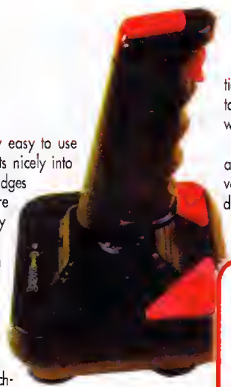
The auto-fire has been placed on top af the jaystick and is not in a positian where you can accidentally switch it on. There is also an analogue version of the Speed King and although slightly more expensive, it is very useful if you're inta playing flight simulations like Knights of the Sky.

The Speed King won't suit everyone's tastes and it isn't the most beautiful joy-stick on the market, but it's so easy to handle and has such a brilliant name that I heartily recommend it.



Company:	Power Play
Appearance:	3
Response:	4
Feel:	5
Overall:	4

Cheetah Mach 1 £10.99



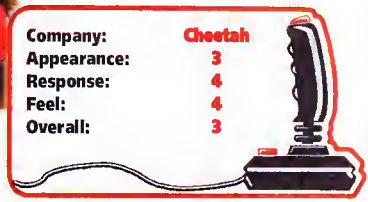
This is quite a large joystick but is very easy to use nonetheless. The long, gripped handle fits nicely into the palm of the hand, with comfortable ridges to place your fingers round. The two fire buttons are located conveniently at the very top and around the side of the stick.

An extra two buttons are situated on the base and the eight-directional, micro-switched control feels light and very responsive.

The auto-fire button is placed on the base but it sametimes seems to fall halfway between the twa without even touching it. The joystick also makes a worrying metal-on-plastic clicking noise when you're playing a game that requires fost joystick work.

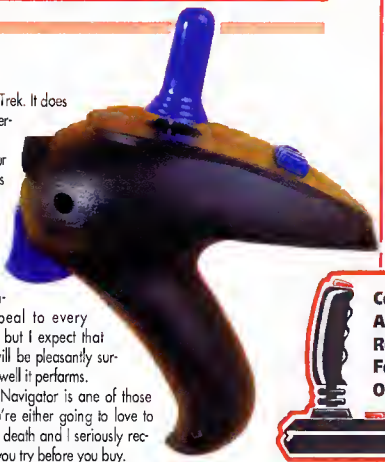
Althaugh the base is quite heavy, the stabilising suction cups allowing you to operate the joystick from a table top don't stick at all well and unstick themselves with the slightest movement.

Games that require a fast respanse but don't need absolute precision will benefit fram this jaystick as it is very light on the cantrols. It is comfortable to hold but doesn't really feel as though it will last.



Company:	Cheetah
Appearance:	3
Response:	4
Feel:	4
Overall:	3

Navigator £15.99



The mast unusual looking joystick af this little batch resembles something out of Star Trek. It does wark surprisingly well though and has been ergonomically designed to ensure a perfect fit, no matter haw big or small your hands are.

It will take a while before you get into the swing of controlling it as it is unlike your average joystick but you'll soan find it perfect for shoot-'em-ups as the fire button is positianed right next to your trigger finger.

It handles well, but I wouldn't advise using it for games like Gool ar Sensible Soccer because you'll find it's quite hard to curl the ball.

The Navigator is fully micro-switched and has a, and I quote, "unbreakable" robust steel shaft. It certainly won't appeal to every gamesplayer, but I expect that most of you will be pleasantly surprised at how well it perfarms.

The Navigator is ane of those sticks that you're either going to love to bits or hate to death and I seriously recommend that you try before you buy.

Company:	Power Play
Appearance:	4
Response:	4
Feel:	4
Overall:	4

Grab your clubs and stand by for a thrilling round of golf from the comfort of your own room

WORLD CLASS LEADER BOARD

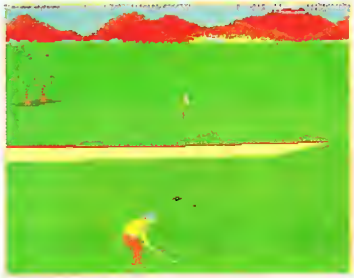
Golf is a strange game. Walking backwards and forwards across a large field, carrying a ton of metal on your back and every so often hitting a ball as hard as you can. Well, that's the basic idea anyway. What's the point? It's fun, apparently...

There's been a multitude of golf games devised for all the platforms over the years, and the most established by far is World Class Leader Board. One of the first of a whole range of golf games, World Class Leader Board does not exactly rule in the visual department but then again the graphics aren't the reason why this game has become so well known. You see, it's in gameplay that this classic has a lot to offer. Fancy a round of golf?

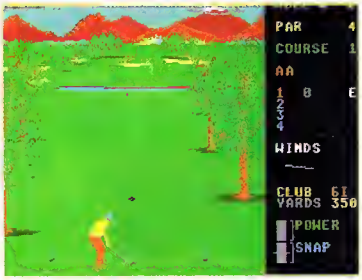
Now available on a budget label, World Class Leader Board is a much more realistic offering. In my opinion it never deserved its full price tag and so the change to budget is great news for any golf fans out there.

The game is supplied on one disk only and is surprisingly simple to understand, mainly due to the lack of original features. Put simply, this is just a golf game, nothing more. There are a couple of options available from the menu screen, a round of golf or a visit to the driving range. The inclusion of the driving range does add a little more interest to the overall gameplay, but you'll soon get fed up of the idea of hitting balls as hard as you can.

To add a little variation to your round, you can choose to take part as a novice, amateur, or professional which obviously alters the difficulty of the course. Factors such as wind and hook/slice come into action when you choose to play as the amateur or professional, so if you're new to the game, it's probably best to select novice at first. There are also four different courses which you can try, and up to four players can compete at any one time.



Bunkers are there to stop you, and they work as well

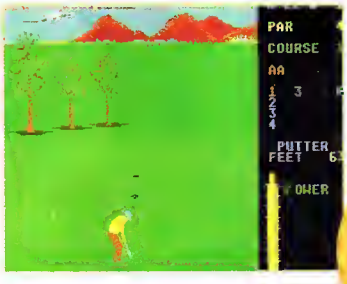


Tee off... Now where shall I hit the ball?

The courses involve the usual bunkers and lakes, and vary in size and shape as you progress through the course. Unfortunately, I find that they are all too similar for my liking, and the boredom soon sets in.

If by any chance you're a complete golf addict, you may wish to play up to 72 holes in one round, but for a basic player the minimum of 18 holes will probably suffice. The style of play is much the same as most golf simulations (in fact World Class Leader Board was one of the first to use this method) with an energy bar used to measure the strength and timing of the shot, and on the harder levels, the 'snap' which determines whether the shot is a hook or slice. If you get this bang on target (which incidentally involves fast reflexes) the shot should stay on target all the way, and you can alter the power of the shot by the same method.

All the different clubs are in there, and you are informed of the distance to the hole so you can decide on which you choose. When you reach the green, the style alters a little and you are confronted with the putting equipment which involves a separate power indicator. It's all made harder by the inclusion of sloping greens. In other words, you need a little skill to work out where to aim the shot and the power to allow for the influence of the slope.



The putting bit. Master the controls and you're away

None of this is too difficult if you set your man to novice, but you'll soon improve and then the extra features offered by the harder settings will become more of a challenge.

As I've said, the graphics are nothing special and unfortunately the sound is of the same poor quality. A few tacky sound effects are about as far as it goes. Don't worry about this though, as it definitely rules in the playability stakes. My only real criticism of the overall game is that it is unlikely to offer much long term interest, even to golf fans. But if you are interested in sport simulations or golf in particular, then this classic should be part of your collection, especially at its budget price.

JAMES JOHNSON

The menu screen greets you with its selection of gameplay

VISION ★★★★★★★★★★

AUDIO ★★★★★★★★★★

DIFFICULTY ★★★★★★★★★★

LASTABILITY ★★★★★★★★★★

76%

One of the first golf simulations, its very basic and doesn't offer anything particularly new or exciting. It is however a classic game and offers quite reasonable gameplay for the price.

Publisher ➤ Kixx XL
Developer ➤ U.S. Gold
Disks ➤ 1
Price ➤ £9.99
HD Install ➤ No
Size ➤ ½ meg

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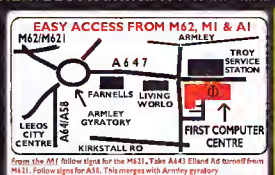

From the M1 follow signs for the M621, Take A643 Elland Rd turnoff from M621. Follow signs for A58. This merges with Armley gyratory
From the A1 take the turnoff for the A64. This merges with the A58 (by passing Leeds town centre) which meets the Armley gyratory

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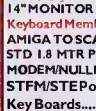
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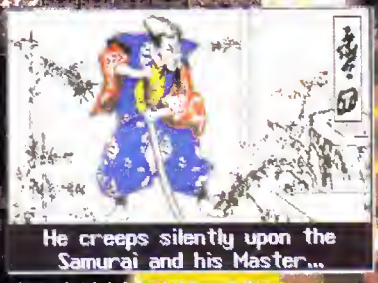
FIRST SAM

The detailed graphics create the setting well



The tragic tale is [illegible] well created [illegible]

From the mid-12th century, the Samurai were part of the military order in Japan. A Samurai was an armed retainer of a daimyo (large landowner) and had various duties and privileges.

But what is associated most with the Samurai is their strict code of honour. A culture rich in images and traditions, they have given rise to many films and books. Now the powerful figure of the Samurai is recreated courtesy of Ubi Soft.

History lecture over. It's time for a brief drama lesson and a bit of scene setting. You play the part of the Samurai, haunted by memories of when the Demon King descended from the mountains and fought and killed your master, you seek revenge.

You were powerless against the King's magic and could do nothing. Your master, drawing his last breath, summoned the Wizard Mage and the King fearing for his life fled into the future.

The time has [illegible] death, so you summon Wizard Mage to learn the rudiments of magic and, armed with a magic sword, you follow the Demon King into the [illegible]

The action takes place [illegible] the countryside of futuristic Japan. Your mission also takes you on a high speed journey on subway train after which you'll arrive at the derelict suburbs of the Demon King's city. Then the ultimate challenge awaits you as, [illegible] you've battled through the classic side of town, you reach the Demon Kings Skyscraper.

[illegible] you have undoubted combat skills [illegible] Wizard Mage to help you [illegible] is [illegible] in the art of magic but he will need special objects to get past some difficulties you may encounter. You will need to collect these objects found in the particular levels.

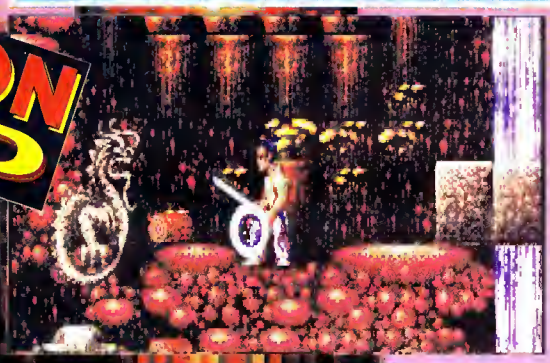
[illegible] particular characteristics and strengths and some will be harder to beat than others. Points are awarded for each kill and the energy of every creature killed is absorbed into the Magic Sword. From giant

The arm is your physical energy, the sword your mystical energy

Look out for [illegible] replenish your physical energy

ACTION GOLD

URAI



From dragons to flying bats, you'll need to defeat all kin[illegible]

While looming up are breathing stone dragons, you will find creatures trying to block your path.

The Magic Sword is swung when enough Mystical Energy is collected. It extends the Samurai's reach and also spares you instant death. Enemies may drop weapons which you can pick up and use. Other weapons can be found such as the dagger, seekers and axes. Up to three daggers or seekers can be collected and used at the same time. Seekers are deadly stars which orbit until an enemy nears and then will instinctively attack them.

The scenery is interactive and some parts can be destroyed to reveal hidden bonuses or access other parts of the level but you must also watch out for land mines scattered around the levels. Transporters can be used to go straight to another area of the scenery.

You'll also have the opportunity to collect bonuses such as a treasure bonus and food bonuses. Food should be found and collected to replenish your physical energy represented by an arm at the bottom of the screen.

There is a mystical bell which can be picked up and used in times of trouble but only when no other course of action is available.

With your combat skills you'll be able to achieve a wide range of effective moves to eliminate enemies. High kicks, low punches and leg sweeps can be used to defend yourself.

Regeneration pots are scattered around the landscape and act as restart points when a life is lost or if the transport option is used. Picking up a potion will transport you to the last regeneration pot. The pot is recharged by using the mystical energy you have collected. Only one pot can be charged at once, so you'll have to carefully consider which paint you wish to start from.

All this makes for some absolutely stunning gameplay. It's fast and furious arcade action and there are enough puzzle elements to keep it varied and interesting.

Graphically it's superb and despite being an OAP of computer games it still looks and plays better than same of today's releases. The [illegible] portray the settings [illegible] brilliantly and the scrolling [illegible] keeps up with the action.

Sound effects, such as gongs [illegible] sounds reminiscent of the Orient, [illegible] and the whole thing conjures up a great atmosphere.

The many moves you can do work well and are very effective. The intuitive joystick controls are simplicity itself and all the moves are easily achieved.

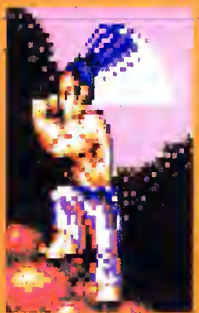
Another nifty feature of a save level option has been included. The program remembers the stage reached, number of lives left and even the score, thus saving the irritating start from scratch each time.

An excellent beat-'em-up/hack 'n' slash/puzzler/platformer, or whatever you'd care to call it, it's a brilliant combination of mental and physical (well, joystick dexterity anyway!) agility that will keep all gamers happy for ages.

TINA HACKETT

Armed and dangerous

The lethal Flying Slash. Jump up to launch a hefty blow at flying enemies



The simple but effective straightforward Slash – ideal for larger enemies

The Crouch Slash and Dig. A more defensive position, you can slash the baddies that will try and attack from below

Creatures will fly at you from all directions. Hit out at them with an Overhead Slash

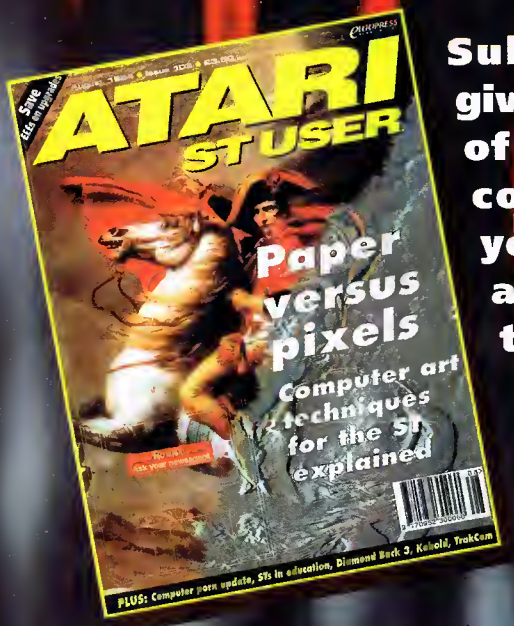
VISION	★★★★★★★★★☆
AUDIO	★★★★★★★★☆☆
DIFFICULTY	★★★★★★★☆☆☆
LASTABILITY	★★★★★★★★★☆

This is arcade action at its best. It may be an oldie but it shows no sign of ageing. A classic.

90%

Publisher ➤	Ubi Soft
Developer ➤	Vivid Image
Disks ➤	2
Price ➤	£9.99
HD Install ➤	No
Size ➤	½ meg

Subscribe to the top



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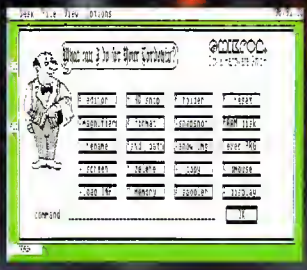

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Rip off and

What is bouncing? Why rip off other people's music? And what's happening in the world of ST music? Phil Morse, as usual, has all the answers

Most electronic musicians are not musically trained. By its very nature, desktop or computer music is the forte of the type of folk who appreciate the incredible amount of sophisticated technology just a few pounds can buy them. They tend to come up with the ingenuity and leave the learning bit until they need to know.

While the dramatic drop in equipment prices combined with the equally dramatic rise in what that equipment can do has, over the last ten years, led to the release of a lot of music which should have been binned way before it got near the shops (remember the kiddies' rave stuff?), this is outweighed by the opportunities offered to the new wave of talented, untrained musicians which has emerged.

But someone with no knowledge of scales or harmonies, just a beginners' chord book and a headful of ideas, is going to get frustrated at automatically playing the same three chords they've learned every time the set-up is switched on! So it's time for some music lessons, new-style.

And one of the most constructive things you can do is rip off other peoples' music. It's simple enough really – you just choose a song you love, and copy it using your keyboard set-up.

STRUCTURE

In the process, you learn such a huge amount about song structure, sounds and melody that it's a worthwhile thing to do on a regular basis, and will aid your own songwriting immensely. It's not surprising then, that such exercises are commonplace in music colleges.

So, here it is, Atari ST User's guide to the great rip-off: To start with, it is important to pick a song you can realistically tackle in both skill and equipment available. Electronic music containing sounds you can roughly duplicate on your synth is the obvious choice.

You should use a CD if possible to listen to your track, for the flexibility the format offers. Music on CD can be paused and jigged around. You can loop a piece you're trying to copy using the A-B loop facility or similar, and generally manipulate the original music enough to have a fighting chance of duplicating it.

Good quality headphones are essential for hearing every last nuance of the original – you'll soon learn that it's sometimes the little details that make a big difference to the feel of a piece.

They'll also help you to get the stereo balance right. Spend some time working out the structure of the song first. Work out where the verse and choruses fit, what the intro and ending are, whether there's a section in the middle where a new melody is introduced. And write it all down on a big sheet of paper with instruments listed down the left hand side and parts of the song listed across the top.

CHANGES

It is worth listening to every single instrument one at a time and observing where the changes are. Drums often change in the build up to a chorus. Are pieces a little out of time? A stock trick for creating tension and excitement is to have the drums "taking the lead" in a build-up, with the other instruments a little behind. Work out how it's done and copy it!

By using other people's music to further your own skills, you are identifying techniques and learning a unique set of tools of the trade. There's nothing shameful about it, and it will add infinitely to your enjoyment of making music – and listening to it.

A to Z of modern music jargon: B

bandwidth – The ear can hear as low as 20Hz, which is a deep, deep rumbling, and as high as about 18kHz (or 18,000Hz), which is much higher than a baby screaming!

The space in between is our audible bandwidth, and in technology the same principle is used to describe the fidelity of, say, a tape player. A Walkman may have a bandwidth of 100Hz to 8kHz, a CD player considerably better.

When sampling, the sample frequency, the quality of your equipment and whether you are sampling in 8-bit into an ST or 16-bit into a Falcon, say, will all affect the bandwidth of your finished sample.

Bandwidths can be misleading if they are given without a response rate: plus or minus so many decibels. A response at 15,000kHz is not much good if it's so quiet that you can't hear it!

bank change – Piece of jargon associated with the General Midi standard, whereby instruments of all brands can play Midi files reasonably accurately. The bank change function is an instruction telling the synth to swap a whole "bank" of sounds for another.

bounce – The simplest way to record lots of instruments is to "bounce" them together onto one tape. This can be done with two tape players; you record all the sequenced part of the track onto a tape, then play this tape back through a small mixer, while mixing in another track, like your vocalist singing, live.

The output from the mixer is recorded onto another tape in another tape recorder at the same time, and – hey presto – a tape with another track added is created. Keep doing this and the quality will begin to drop, so it's a technique to use judiciously.

Of course, if you've got a 4-track portastudio, you can bounce the first three tracks onto the fourth and so on to rapidly build up a piece containing a respectable number of tracks. It's a very widely used technique, and one that will be featured in more depth in a future Midi and Music.

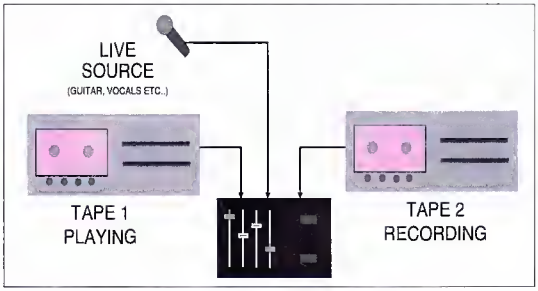


Figure 1 - bouncing with two domestic tape players. After one bounce, the tapes are swapped and the process repeated until the desired number of tracks have been recorded

learn

Snap, crackle and pop

I have an STE with 4Mb of RAM, with a Roland CM64 synth module and a Roland master keyboard. I mix the STE's output through a mixer along with the synth, which is then fed into my hi-fi.

My problem is my loudspeakers, which are JPW Sonatas. They've always worked fine with my stereo, but they tend to crackle and pop when certain instruments are used from my synth, as if the speakers are being overloaded. I have to turn the output from my synth module ridiculously low to stop this. Any clues?

Jone Murphy, Leeds

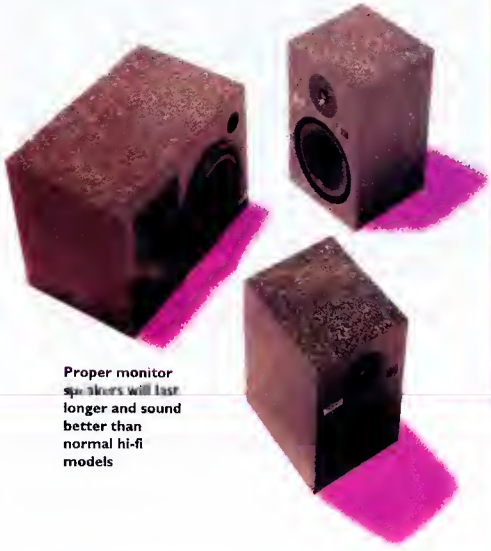
ST live!

Send your queries, complaints or praise to Phil Morse c/o Atari ST User at Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP

You've said it – you're playing your synth too loud through your speakers! A digital synth module contains an incredible range of noises, from the very lowest to the very highest, and it's my guess that the overloading you describe is caused by your speakers buckling under the strain, in just the same way as a guitar can blow hi-fi speakers if played through them.

The answer, apart from keeping the volume lower, is to use headphones – or buy some dedicated monitor speakers like the Peavey PRM range (pictured).

They're quite pricey, but it's really the only satisfactory way to hear your own music being made outside of a good pair of headphones. This type of speaker is actually called a "near-field" speaker, because of a design allowing optimum quality close up, as in most bedroom and home studios.



Proper monitor speakers will last longer and sound better than normal hi-fi models

Music news

● Struggling to find the right software editor for your synth? Don't want to pay too much for one when you see some manufacturers of current synths giving such editors away for nothing to their users? You could try giving Westec a call on 0621 788466.

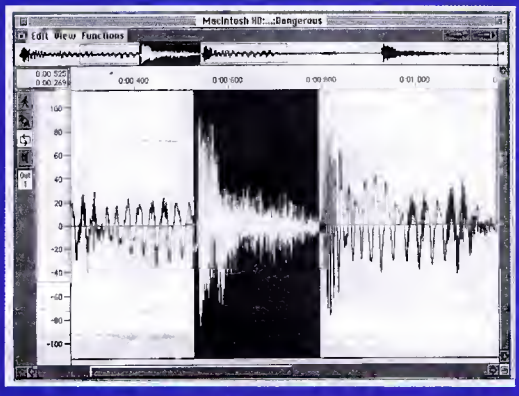
They've got a huge range of Atari editors at £3.95. They also sell a neat set of programs to configure pre-General Midi Roland synths to the GM standard via sysex dumps. These come in at a still reasonable £7.95 per disk.

● If you've just discovered the joys of sampling and sample manipulation with your Falcon (or ST in the case of a lot of us mortals), you're probably cursing the inadequacies of your current storage capacity.

Luckily, Gasteiner have launched a new range of hard drives specifically for Atari computers. The drives are guaranteed for a year and come complete with fans to keep the things cool through those summer afternoon sample-splicing sessions.

Supplied complete with formatting and partitioning software, prices start at £259 for a 170Mb Falcon drive (£299 for the ST range) and go up to a whopping £1,299 for an equally staggering 1,800Mb drive! Phone Gasteiner on 081-345 6000.

● A training video for Emagic's excellent Logic sequencer range carries added weight since it was produced by Emagic themselves. The imaginatively titled Logic Tutorial Video Volume 1 contains 12 tutorials covering all the main aspects of using the program, from basic sequencing to powerful features like HyperEdit and the Matrix Editor. The price should be around £49; for more information, phone SOS on 0480 461786.



Complex sample editing in Emagic's Logic Audio. Their new training video explains how to use the program effectively

● For those of you who are desperate for a Roland TB-303 bass synth – you know, the one they don't make any more but can be heard on hundreds of acid house records from We Call It Acieed to the KLF – some good news.

Roland haven't put the original back into production, but the new Novation Bass Station handles all those classic sounds, and more, and has lots of old-style knobs lending it the feel of the old Roland classic.

This means you can play it in the time-honoured style which has accidentally given birth to many an amazing electro riff – by hitting the keyboard and turning the knobs like crazy with the tape running! Price? £349.99. Novation are on 0628 481992.

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PLAYABLE ISHAR 3 COVER DISK DEMO!

The select few

Andrew Wright looks at an indispensable utility and brings news of two upgrades

If I had a quid for every utility that I and my journalistic colleagues had labelled indispensable or essential over the years, I'd be a rich man, but if ever I had to single out a type of program that no Atari user should be without, it would be the replacement file selector.

Well that's my opinion, but once you've got used to having all kinds of operations at your fingertips, you'll probably feel the same way too.

ADVANTAGE

One of the best is Selectric 1.10e, a German shareware product fully translated into English and supported in the UK by Atari enthusiast Joe Connor (65 Mill Road, Colchester, Essex CO4 5LJ).

The advantage of a replacement file selector is that every time you open or save a file, you have access to a much wider range of utilities so that you can then format a disk, copy, delete or move files or even search a hard disk for the one you want.

Selectric has an accompanying desk accessory that enables it to be summoned from the GEM menu bar.

Selectric also works with Let 'Em Fly, so you can place the dialogue anywhere on screen. The program has its own file-loading protocols which are becoming widely used in programs like GEM-View and Imagecopy 3 to allow loading of multiple files in one operation. These are:

A – Pop-up drive button – lets you quickly choose the drive you want to access.

B – Pop-up path button – you can save frequently-used paths such as the folder in which your documents are stored.

C – Highlighted file – to speed up access, hitting any unshifted letter on the keyboard will select the first file that starts with that letter. Alternatively you can use the arrow keys.

D – Accesses the Options menu

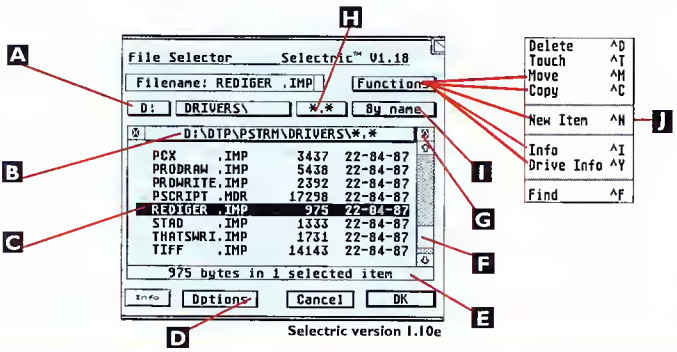
E – Status line – clicking and holding the mouse button displays drive free space.

F – Scroll bar – Selectric is a lot more intelligent than standard Gem programs. If you open a folder and then close it, the slide bar will be in exactly the same place as before.

G – Select or deselect all in the window.

H – Pop-up list of ten user-definable extensions.

I – Pop-up list of sorting methods. Selectric has many powerful functions such as delete, move, copy, new file/folder, search using wildcards and detailed drive information.



Selectric version 1.10e

Sharper Edge

Diamond Edge is one of those essential utilities that no hard disk owner should be without. Not only does it defragment drives and optimise them completely, reordering files folder by folder, but it includes dozens of essential safety features such as the ability to store boot sector information so you can restore partition details if everything goes pear-shaped.

Many owners are still using version 1.02, which was the first UK release version, but the program has had several upgrades since, making it much more reliable.

Thanks to an upgrade file downloaded from Compuserve (also available from HiSoft for a small fee), version 1.02 or 1.03 can be converted into the much better-behaved version 1.10, which now has an enhanced user interface compatible with the new Falcon and MultiTOS 3D look.

Edge has caused me no problems at all and seems to work well with ICD, AHDI and HD Driver software on both IDE and SCSI drives.

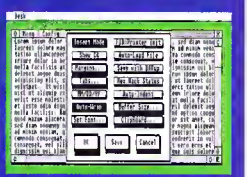
A new version of Diamond Mirror fixes a number of bugs, including some reported date problems. The internal file format for mirror files and disk information files has changed too.

You will need to delete your existing ones and recreate new ones from Edge V1.10 and Diamond Mirror V1.1 This also means that you need to recreate your Diamond Edge Emergency disk.

EdHak gets an upgrade

EdHak, the flexible little text editor from Douglass Communications, has received several upgrades recently and the patch to version 3.03 from 3.00, 3.01 and 3.02 has been made available online, as is so often the case.

Modem owners are always much better informed, of course, though they do pay for the


EdHak 3.03

privilege with higher phone bills. Alternatively you can contact Douglass Communications for an upgrade.

The main features of version 3.03 are the removal of the unnecessary "Really want to quit?" alert and the addition of a "Save changes?" alert when quitting from the program or MDX (MultiDesk accessory) version.

The fonts dialogue is also updated and instead of showing the font size, the user is now presented with options for default text size or a bigger or smaller font. A Cancel option has been added to the Text/Hack/Hex dialogue too and several minor buglets have been fixed.

Version 3.02 and later versions now work as a drag and drop accessory under NeoDesk and the horizontal scrolling has been improved by using blitting.

New Age PDL £1.75 EACH

Unless otherwise stated

All disks require a COLOUR system unless: 'H' - High resolution monitor required, 'A' - Any setup suitable.

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FALC 2 - Falcon Boot 1.2, Backward 2.24 (ST emulator), New Depack, Text Files, Desk Copy, Deskpic 1.0.5, Sysinfo, DC Xtract 2.1, Revive, SpiritED 1.3 (unks).
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FALC 37 · Fractal Playtime, Gemview, Delmpaint, Gix Gif, Binaris 2.0 + more! (art).
FALC 52 · System Audio Manager 1.1 · assign samples to events, Digitape 2 demo (music)
FALC 77 · Emacs 3.11, Everest 1.5, KM Term, Atomik 3.5, X-Menu 1.3, Profile 1.43, Rezfooler (run RGB stuff on VGA monitor), Fullres 1.01, Swabs, Dclock 1.0, Fuzzy Clock 1.14
FALC 96 · Whan Dreams Become Reality (RGB), Warum (RGB), Incanvex (RGB) (demos)
FALC 103 · Oxyd (excellent!), Des Lasers et Des Hommes (3D shoot em up), Masters of Chaos (Dungeon Master clone), Tron, Ishar Editor, Maria Kart demo (games).
FALC 106 · Falcon Flight Demo · real time zooming demo over fractal landscape + great music.
FALC 107 · Crime by the DNT crew, Magnet by Alphatech, Bobs-1. All RGB/TV only, (demos).
FALC 109 · DMB icons - two large sets of replacement icons, Before Dawn screensaver 1.25.
FALC 110 · Videl - easy to use TGA viewer, Rainbow demo 0.5 · Truecolour art package.
FALC 112 · Mahjong II - German version of this classic tile game. Disk approx 1/2 full.
FALC 113 · Manga demo (4meg+) - digitised pictures of a woman modelling a skimpy bikini!
FALC 114 · Multi-Dialogue 1.3, Master Browse 3.2 · excellent text file viewer, T-Cache 6.0.
FALC 115 · Octalyser 0.B · another 8-track tracker ported from the STE + docs & source code.
FALC 116 · Papoo was a Blade Runner (4meg+) new demo by EKO, very good. RGB/TV only.
FALC 117 · POV Raytracer 2 an 2 disks, zipped & expands to nearly 5 meg! £3.50.
FALC 119 · Moving Pixels Demo (VGA) · 4 meg+ - a mega-massive demo that requires 10 megabytes at hard drive speed! From Australia, this basically shows off the Falcon itself - the sort of thing you'd see in a shop window, covering graphics, sound and productivity. Very good. Five disks - £8.00!

GAMES

MEGA-GAMES PACK ONE!

No less than ten disks crammed to the brim with archived games (de-archiver and printed instructions supplied) to squeeze on an amazing 117 games covering board/puzzle/strategy/arcade and adventure. For a full list ask with your order or if not ordering, send a stamp. All should run on a colour system with 512k and be STE compatible! You will need about twenty disks to unarchive these disks onto! AMAZING VALUE FOR MONEY.

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GAME 183 · Towers - a great new Dungeon Master Clone · the best yet! 2 disks (1Mb+) £3 50.
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GAME 188 · Premier Mahjong II · excellent version of this superb tile game 60Hz only.
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GAME 190 · Quest for Knowledge · quiz type game set in a maze arena
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GAME 193 · World Fighting Championships · beat up opponents from all over the world.
GAME 196 · Roll-It · ingenious puzzle game with 40 levels, a sort of ball/tile game. 1 meg+
GAME 199 · Skulls · A flash STE only version of Minesweeper from the PC, good. 1 meg+.
GAME 201 · It's A Mug's Game · good overhead view boxing game with nice graphics etc.
GAME 204 · Gone to the Dogs · bet on the races! Grav · good arcade game based on Oids.
GAME 209 · Money Mania · collect all the money from each screen, loads of nasties etc. Good
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DEMO 335 · Reality is a Lie · a 13 screen demo by Psychomix, very good. 1 meg+.
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TRAC 126 · Scrambled Mind, 14 World, Wyre II, Hope Part 2, Lotus Turbo 2, H-Metal.
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WORD 5 · Calamus Demo, no save function but you can print. 'H'.
WORD 8 · DB Writer 1.4 · very slick wordprocessor with many features. 'H' 1Meg+
WORD 9 · Calamus Support disk · loads of utilities for Calamus and fonts etc.'H'.
WORD 12 · Papyrus Office Demo 2.26 · good document processor with fonts etc. 'H'.
WORD 13 · Calamus S demo · fully functioning except save. 2 disks. £3.50. 'H' 1 Meg+.

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MUSIC 38 · 790 Dump, ST Sound 2 · record, play, compress and edit samples.
MUSIC 39 · SSP PD Voicepack · patches for the Roland GM-70, TX81z, Roland D110.

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Vote for it

Steve Gold reports on the possibilities of a standard speed modem

The June International Telecommunications Union (ITU) meeting in Geneva, at which the proposed V.34 (28,800 bits per second – bps) modem standard was voted upon, almost led to the ratification of the standard. Members agreed to put the standard to a formal ballot of all the major modem manufacturers.

Bill Pechey, technical manager with Hayes' Northern Europe operations and a member of the V.34 study group who attended the June meeting, told me that such ballots have never, ever failed, so the V.34 standard is all but approved.

It had better be – the standard has been in progress for the last three years and, while the ITU (formerly the CCITT) have been 'discussing' the proposed standard in earnest this past year or so, the industry has predictably spawned an interim and unofficial standard – V.Fast Class, or V.FC for short.

The world's first V.34 modem

First the bad news. The full V.34 specification is not compatible with the V.FC system. Thank goodness that Rockwell, which produces the modem driver chips for around 80 per cent of the modem market, has committed to its V.34 chipsets being backwards compatible with the V.FC system.

COMPATIBLE

Since all the existing V.FC modem producers have committed to making their future V.34 modems backwards compatible with the V.FC system, this raises the interesting prospect of virtually any of today's V.FC modems being compatible with the current crop of V.FC/V.34 modems, but that the first crop of V.34-only modems – expected later this year – will not be necessarily compatible with the V.FC system! Pechey sums this up by saying that, if you want a 28,800 bps modem now or are planning to get one before the end of the year, it's best to buy a V.FC unit now.

"For the first four months or so, there's no guarantee that a V.34 modem will be compatible with the older V.FC system," he said. What a mess.

The only saving grace is that V.FC supports 28,800 bps modem transmissions without recourse to data compression – not even the Bis system seen on 14,400 (V.32Bis) or 2,400 (V.22Bis) modems.

That makes the system three times faster than the nearest non-compressed speed of 9,600 bps. All this argument is irrelevant if you're thinking of buying a portable V.FC or V.34 modem from US Robotics.

According to Clive Hudson, USR's UK managing director, the company are waiting to see how the V.FC saga pans out later this year before committing to developing a 28,800 bps portable modem. Not that this is cramping US Robotics' style.

The August report from Dataquest, a market research company, shows the company as holding the number one sales slot in the UK modem market with some vigour.

According to Dataquest, US Robotics has a 16.5 per cent share of the high-speed modem market-place, ahead of Cray Communications with 11.4 per cent.

In the total market-place, US Robotics have 13.7 per cent of the market, just behind Cray with 14.4 per cent. The report signals a major shift towards high-speed modems from the low-speed (2,400bps and below).

In 1993, 70 per cent of modem sales were 9,600 bps or faster. During 1993, the 14,400 bps modem market quadrupled in size from 50,000 to more than 200,000 units.

HIGH-SPEED

This, USR claims, is due to the opening up of the home and small office/home office (SOHO) market-places to high-speed modem technology.

Hudson is predicting that 1994 will see USR pull away from the rest of the modem pack and top out the market on the overall market share as well.

"We've gone from 15th in 1990 to number one in 1993. The figures tell their own story," he said. But what can you do with a V.FC or V.34 modem on the dial up scene?

The answer is that, despite all the hype from the modem manufacturers (sorry guys), there aren't that many online services that support 28,800 bps.

Online services

Most online services, such as CIX, CompuServe, Genie and others, have their own national and even international data networks to cut their switching costs.

These networks were designed in the 1980s, when 14,400 bps was as fast as modem users thought they could go. 28,800 bps was science fiction in those days.

These days, we know different. But the networks are still there and are locked into the world of 14,400bps. 'So upgrade them,' I hear you say. Easier said than done, as upgrading an international network the size of CompuServe is no mean feat.

UPGRADED

CompuServe have two million subscribers and, according to Martin Turner, CompuServe's UK MD, a further 1,000 are coming online in the UK alone.

That's why CIS has only just upgraded its non-London dial-up ports to 14,400 from 9,600 bps. Although some US ports are on beta test at 28,800 bps, yours truly predicts that it will be at least this time next year before we see 28,800 bps available on dial-up on the UK CIS network.

That hasn't stopped several BBSs and one major online service, CIX in Surbiton, Surrey, from moving to 28,800 bps. CIX is lucky, as it's a single site system, so no networks need to be upgraded.

If you access BBSs, the 28,800 bps modems are worth checking out. If you're an online service person, hang fire for a year before laying out your hard-earned cash for a 28,800 bps modem – 14,400 bps will serve you well my friend.

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Scanner appeal

A picture says more than a thousand words and a scanner gives you access to thousands of pictures. Günter Minnerup offers some advice on purchasing these extremely handy peripherals

You are looking at a switched-off computer on someone's desk – nothing on the monitor, and no way of checking the contents of the hard disk. How do you tell if this computer is being used for desktop publishing?

Simple. Look at the peripherals attached to the computer: chances are that if there's a scanner the machine is used for DTP. The scanner has become the desktop publisher's best friend and indispensable ally.

It is possible, of course, to dispense with its services and use some other method to include illustrations in your work. There is plenty of ready-made clipart about, for example, and you can always leave blank spaces in the text and rely on the printer to drop in any photographic material.

You can even draw your own illustrations if you are so inclined and, more importantly, have the necessary talent.

TECHNOLOGY

Nothing, however, gives you the flexibility of a scanner and I have never met anyone involved in DTP who has not put a scanner at the very top of his shopping list.

Useful as they are, however, you need to know a little bit about scanner technology to make the most of them. Many a rash purchase has ended in disappointment because not enough thought has gone into the intended uses of the gadget, or their strength and limitations are not properly understood.

One common misconception, for instance, is that a scanner will enable you to cut out tedious retyping of manuscripts by scanning in text and using "optical character recognition" (OCR) software to translate the page images into ASCII files.

A good idea in theory, but in practice you find that OCR software needs to be "trained" to read a particular typeface, and unless most of your manuscripts come from one and the same source, it is usually quicker to retype the text rather than spend hours teaching your software to decipher the scans.

POPULAR

Dot matrix output, in particular, is notoriously difficult for OCR programs. Scanners are really for pictures rather than text, and pictures come in all sizes.

Hand scanners are popular because they are cheap but cannot cope with anything more than a few inches wide, so if you think you might regularly wish to scan in larger images they are a false economy. Since the manual movement of the scanner across the original image is inevitably slightly irregular in speed and direction – even with the steadiest of hands and useful little aids like a guide rail – they also produce inferior results compared to flatbed scanners.

The greatest misunderstandings, however, arise from confusion over the relationship between scanned input and printed output. The natural inclination is to go for the best scanner that your money can buy, and surely that is the scanner with the highest resolution?

Wrong. For line art such as drawings and cartoons there is no need to scan at a resolution higher than than of your output device: 300 dpi for most laser printers and somewhat less than that for dot matrix.

So when the salesman talks of 400, 600, or even 1200 dpi resolutions, the first question you need to ask yourself is: do I really need all this? More often than not, the answer is no. But before we look at the reasons why, just a word or two on what is actually meant by the term "resolution".

Many scanners are sold somewhat misleadingly with promises of high resolutions which border on the fraudulent. The crucial figure is the true optical resolution of the scanner, which depends on the number of light-sensitive sensors – most budget-range scanners have 200 or 300 dpi optical resolution.

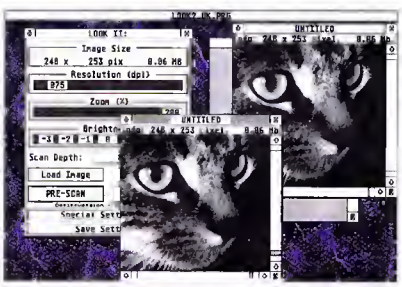
IMPORTANT

Through various tricks such as data interpolation, such scanners are often capable of generating image files of 400, 600 or even 1200 dpi resolution, but the resulting images are simply larger rather than more detailed.

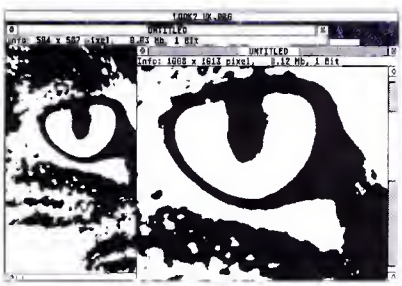
The other important consideration is whether the quoted output resolution is for dithered monochrome (1-bit) or true greyscale or colour images (8 or 24-bit).

Dithered monochrome images cannot be enlarged or reduced without detrimental effects on the image quality, and will not work properly with image editing software, but could be acceptable for low-cost applications printed on dot-matrix or laser printers.

After this brief introduction into the basics, next month's column will look at the problems and pitfalls of working with scanners and offer some practical hints and tips on how to get the best out of even the most basic set-up.



A 150dpi scan provides more-than-enough detail for high-quality output of photographic material (right). For laser printers, 75dpi (left) is easily sufficient



Scanning at twice the true optical resolution (right) doubles the size rather than the quality of the image. This is useful only if you wish to enlarge a small original without loss of sharpness

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How's your image?

Your ST is one of the best tools available for creating the right image for your business. Richard Williams explains how to present yourself

Many of those who have harnessed the power of the ST in their businesses bought the machine because of its reputation for being able to produce high quality DTP.

It still holds true today that the ST is probably the most economical computer on which to produce high quality documents.

Of those businesses which regularly run a DTP program, a large percentage are in the mail order business, where mailshots and direct response advertising are the order of the day.

A mail order firm can ruin its image, or simply start off with a very poor one, by distributing a poor quality mailshot.

Low quality printing on a nine-pin dot matrix printer, poor design and an uninteresting message all add up to disaster for the mail order operator.

DESIGN

For those starting up, don't forget that you never get a second chance to make a good first impression. Those who have been in the business for some time might do well to consider ways in which the design and the message might be made even more attractive to the potential customer.

Even those who are not in mail order cannot escape the fact that any printed matter emanating from the business *must* be of a high quality if it is to give the right impression.

In the initial stages in particular, apart from word of mouth, your first contacts are likely to be by letter. Barely legible notes on scraps of paper will impress neither a supplier from whom you are seeking credit, nor a prospective customer.

Doing the job properly does not mean spending a fortune – the chances are you have most of the hardware, software and materials you need already.

If you only have a nine-pin dot matrix printer or your inkjet is starting to look a bit dodgy, you could employ a bureau of some kind to output your work – or perhaps it's time to invest in that page printer (laser or LED, the quality is about the same) you've been promising yourself ever since you started up in business.

Matching letterheads and envelopes need not cost the earth. If you buy in the right quantities from the right place and you print the logos, address and slogans yourself, it will cost you barely more than the lower quality alternatives.

Do you actually have a logo? Many new businesses simply format the name in the first font and style that seems appropriate.

If you're not artistic yourself, discuss a design with a graphic designer. Never underestimate the power of a well-designed logo. If it works, people will remember it, and, all being well, it will come to be a symbol of a service, product or range of products on which people can depend.

Make a good first impression. Spend some time on letterhead design

The following may be obvious, but you would be surprised at how many businesses fail to provide adequate information about themselves on the material they send out.

A business letterhead should include the name and nature of the business, give the full address and telephone and, if appropriate, fax numbers, and give the name of the proprietor or owner or, in the case of a limited company, the names of the directors. Choose fonts that are clearly legible. There is nothing more annoying for someone who needs to write back to you than to be left wondering whether a particular letter is a lower case 'o' or 'e', or if a number is '2' or '7'.

Keeping the same logo right from the start is vitally important if you are to build loyalty to a symbol, so spend some time on it, don't be afraid to experiment and make wholesale changes, and get it right before it goes public.

SENSIBLE

As so many of those who use the ST in business are in the mail order sector, it seems sensible to include some words of advice about the component that can make or break a direct mail campaign.

The letter which accompanies your offer is of vital importance. As far as your business's image is concerned, it is your only point of contact with the public – at least as far as the current campaign is concerned – until order fulfillment (more about fulfillment, yet another area where image is all-important, next month).

Firstly, if possible each letter should be personalised for the recipient – which assumes a database with a list of likely prospects, and use of mail-merge facilities.

If it's within the bounds of possibility – that is, if you are writing to hundreds rather than thousands of people – try to hand-sign the letters to give each one that personal touch. Don't use a cheap ballpoint. A fountain pen containing traditional, runny ink is still the best tool for this job.

Successful ventures

The following six vital rules of writing a successful mailshot should be adhered to closely whenever you launch a campaign. Success is never guaranteed for anyone, but this strategy will at least ensure you have a much better chance of succeeding:

1. **Important words, phrases and even complete sentences should be underlined to add impact. Don't overdo it – if nearly everything is underscored, the impact is lost.**
2. **Use persuasive words and phrases. These include words like amazing, easy, exciting, outstanding, quality, reliable, unique, valuable and – one of the shortest but most effective – you. Words can have powerful and magical qualities. Make them work for you.**
3. **Sentences should be short and full of impact. There's no better means of ensuring your mailshot is consigned to the bin than to write it in long, impenetrable sentences. Paragraphs should be kept short, too.**
4. **The benefits of the product are usually more important than its features. Touring caravan salesmen sell freedom of mobility and the widest choice of holiday dates. Details of the box on wheels are usually secondary. The only possible exceptions to this rule are status symbol purchases.**
5. **Your letterhead should be at the bottom of the sales message. The message is the most important thing and people need to understand it in the first four or five seconds of opening their direct mail. Don't hit them straight away with information they won't need until later.**
6. **Make use of the postscript (the page description language as well, if you like, but here we're talking about the traditional PS!). A PS at the end of your letter will reinforce the message. After you've grabbed the reader's attention with the main facts, it is often the PS which clinches the sale. Make it hit home – think of it as your last shot at convincing a possibly sceptical potential customer.**

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Icon do it

John Hetherington eyes up his icons

Rumour has it that Atari are planning some interesting bundles in time for Christmas. Several key developers have apparently been approached with a view to bundling their products in value-added Falcon packs aimed at the consumer market.

No details are available at present, but it appears that Atari may have at last decided that it needs some revenue and that the only way to get it is to sell their products. Clever idea, isn't it?

This is what's needed, of course. The first rash of Falcon software

has been remarkably good but the second wave will inevitably depend on the revenue earned from the first and the predicted growth in the user base.

If Atari can push out some cheap Falcon bundles, we should all see some benefits.

Once you've got over the sight of the wonderful TOS 4.0x desktop, you start to wish you could customise it just that bit more. Somehow the colour icons available don't match up with the applications you want to place on the desktop for quick access and many of them are just plain rubbish.

The good news is that there's a wonderful little shareware utility that can help you do the job. It's called Dr Bob's Desk Icon Editor and at version 1.42 it's a nice-looking utility guaranteed to give you hours of fun. Now for a little background. TOS 4.0x reads a file called DESKICON.RSC from the root directory when the Falcon boots up and stores it in memory for rapid access.

This file contains all the colour and mono icons for the desktop. Mono icons are used, not surprisingly, for mono modes and also four-colour modes while the others, all 16-colour icons, are used for the colour modes all the way up to true colour.

In fact there are two versions of each colour icon, one for the normal display and the other for whenever it is selected, giving the illusion of animation.

The DESKICON.RSC file has 33 slots, each holding three icons (standard, selected and mono) and each of which is 32 by 32 pixels in size. Unfortunately many of the mono icons are duplicates, so there are fewer icons available altogether.

At present only 16-colours are supported but according to the documentation accompanying the editor, it may be possible to use larger icons with eight or 16 bits of colour – an interesting possibility.

The icon editor lets you edit the icons in any way you want and save them back to the DESKICON.RSC file. Naturally you shouldn't attempt it with the original file supplied on your Falcon's utilities disk – always do it on a backup.

What's more, with a supplied utility called RSCXPAND, you can add up to 199 icons to the file. However, at 386k it becomes quite a hefty file and it will take up more of your RAM and slow down the boot process a little.

I'd be interested to know if it is possible to reduce the number of icons to speed up the boot process and save RAM. Many users could probably get away with just six or seven icons.

Two other utilites are supplied with the package, both of which will display folders full of icons in either the IB? format or Windows ICO format, which makes looking at libraries easier.

The full package can be obtained from Goodmans PD library (0782 33S6S0) and it is highly recommended for both colour and mono lovers.

My new desktop resplendent with new icons

Dr Bob's editing mode

PD Resource

There are a number of edited resource files available from the PD libraries and a good selection is supplied in the program's proprietary IB? format.

Single icons are IBI and groups of three (standard, selected and mono) are labelled IB3. The program will load any DESKICON.RSC file, IB? icons singularly or in groups, or even import Windows ICO format ones. These can be obtained by the thousand from PC-based PD libraries.

The editor has two large windows, one for the icon and one for its mask. There are plenty of editing and drawing tools available, so you can easily build up your own icons from scratch or alter existing ones.

The Grab command lets you grab icon groups from the currently loaded DESKICON.RSC file and the Put command lets you put them back in any slot you choose.

One clever feature is the change colours box where you can change all occurrences of one colour to another. This means you can quickly change an existing icon's colour and save it back to the RSC file.

The main problem is the palette. The icons are displayed using the existing palette, but if you subsequently make changes to the colours in the palette the icons can start looking odd.

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The complete package contains the Videomaster video digitising and sound sampling hardware unit, TRI-Colour filters for colour camera use, comprehensive user guide and full system software.

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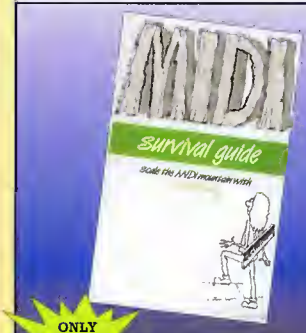

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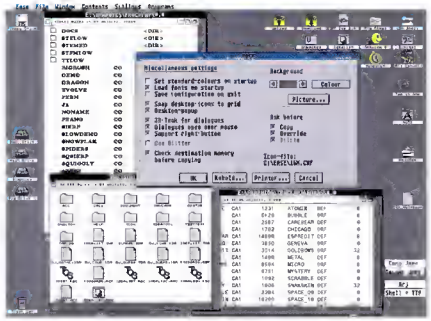

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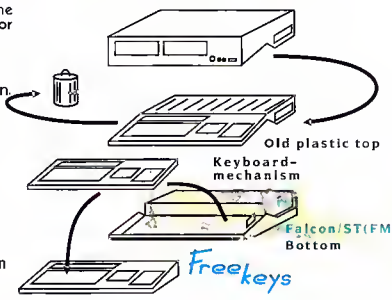

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